ORDER NO. MTC9603628A1
PQ1

Service Manual

Color Television

Main Manual (NA5B)

Panasonic

Models	Chassis
CT–20G31U	ALEDP269
CT–20G21U	AEDP269
CT–20G21CU	AEDP269
CT–20S16U	AEDP269
CT–20G11U	AMEDP269
CT–20G11CU	AMEDP269
CT–Z2151U	AMEDP269
CT–2042SU	ANEDP269
CT–2032SU	ANEDP269
CT–20R13U	ADP269

Panasonic

Models	Chassis
CT–27G11U	AEDP262
CT–27G11UU	AEDP262
CT–27S4CU	AEDP262
CT–27G11CU	APEDP262
CT–2757SU	AMEDP262
CT–2757SCU	AMEDP262

Quasar

Models	Chassis
SP2018U	AEDC271
SP2018CU	AEDC271
TP2008U	ADC271

Quasar

Models	Chassis
SP2718U	ANEDC262
SP2718UU	ANEDC262
SP2718CU	ANEDC262

NOTE: Model **CT–27G11UU** is identical to the **CT–27G11U** and **SP2718UU** is identical to the **SP2718U** except for the magnetic field used in the factory to adjust **purity** and **convergence** for different markets.

This Service Manual is issued as a service guide for the models of the NA5B family listed above. Included in this manual are a set of schematics, block diagrams, operations overview, functional descriptions, alignment procedures, disassembly procedures, and a complete parts list.

"**WARNING!** This Service Manual is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non–technical individuals of potential dangers in attempting to service a product. **Products powered by electricity should be serviced or repaired only by experienced professional technicians.** Any attempt to service or repair the product or products dealt with in this Service Manual by anyone else could result in serious injury or death."

The service technician is required to read and follow the "**Safety Precautions**" and "**Important Safety Notice**" in this manual.

Matsushita Electric of Canada Limited
5770 Ambler Drive Mississauga,
Ontario L4W 2T3
Canada

PSC
Ave. 65 de Infanteria, Km 9.5
San Gabriel Industrial Park
Carolina, Puerto Rico 00985

Matsushita Services Company
Division of Matsushita Consumer Electronics Company
A Unit of Matsushita Electric Corporation of America
50 Meadowland Parkway,
Secaucus, New Jersey 07094

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Important Safety Notice

Special components are used in this television set which are important for safety. These parts are identified on the schematic diagram by the symbol ⚠ and printed in **BOLD TYPE** on the replacement parts list. It is essential that these critical parts are replaced with the manufacturer's specified replacement parts to prevent X–ray radiation, shock, fire or other hazards. Do not modify the original design without the manufacturer's permission.

Safety Precautions

General Guidelines

An **Isolation Transformer** should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect the Receiver from being damaged by accidental shorting that may occur during servicing.

When servicing, observe the original lead dress, especially in the high voltage circuit. Replace all damaged parts (also parts that show signs of overheating.)

Always Replace Protective Devices, such as fishpaper, isolation resistors and capacitors, and shields after servicing the Receiver. Use only manufacturer's recommended rating for fuses, circuit breakers, etc.

High potentials are present when this Receiver is operating. Operation of the Receiver without the rear cover introduces danger from electrical shock. Servicing should not be performed by anyone who is not thoroughly familiar with the necessary precautions when servicing high–voltage equipment.

Extreme care should be practiced when **Handling the Picture Tube**. Rough handling may cause it to implode due to atmospheric pressure (14.7 lbs per sq. in.). Do not nick or scratch the glass or subject it to any undue pressure. When handling, use safety goggles and heavy gloves for protection. **Discharge the picture tube** by shorting the anode to chassis ground (not to the cabinet or to other mounting hardware). When discharging, connect cold ground (i.e. dag ground lead) to the anode with a well insulated wire or use a grounding probe.

Avoid prolonged exposure at close range to unshielded areas of the picture tube to prevent exposure to X–ray radiation.

The **Test Picture Tube** used for servicing the chassis at the bench should incorporate safety glass and magnetic shielding. The safety glass provides shielding for the tube viewing area against X–ray radiation as well as implosion. The magnetic shield limits X–ray radiation around the bell of the picture tube in addition to restricting magnetic effects. When using a picture tube test jig for service, ensure that the jig is capable of handling 31kV without causing X–ray radiation.

Before returning a serviced receiver to the owner, the service technician must thoroughly test the unit to ensure that it is completely safe to operate. **Do not use a line isolation transformer when testing.**

Leakage Current Cold Check

Unplug the AC cord and connect a jumper between the two plug prongs.

Measure the resistance between the jumpered AC plug and exposed metallic parts such as screwheads, antenna terminals, control shafts, etc. If the exposed metallic part has a return path to the chassis, the reading should be between 240kΩ and 5.2MΩ. If the exposed metallic part does not have a return path to the chassis, the reading should be infinite.

Leakage Current Hot Check (See Figure)

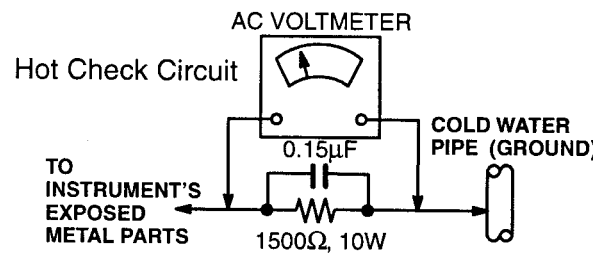
Plug the AC cord directly into the AC outlet. Do not use an isolation transformer during the check.

Connect a 1.5kΩ 10 watt resistor in parallel with a 0.15μF capacitor between an exposed metallic part and ground. Use earth ground, for example a water pipe.

Using a DVM with a 1000 ohms/volt sensitivity or higher, measure the AC potential across the resistor.

Repeat the procedure and measure the voltage present with all other exposed metallic parts.

Verify that any potential does not exceed 0.75 volt RMS. A leakage current tester (such as a Simpson Model 229, Sencore Model PR57 or equivalent) may be used in the above procedure, in which case any current measure must not exceed 1/2 milliamp. If any measurement is out of the specified limits, there is a possibility of a shock hazard and the Receiver must be repaired and rechecked before it is returned to the customer.



X–ray Radiation

WARNING: The potential source of X–ray radiation in TV sets is in the High Voltage section and the picture tube.

NOTE: It is important to use an accurate, calibrated high voltage meter.

Set the **brightness, picture, sharpness** and **color** controls to Minimum.

Measure the High Voltage. The high voltage meter should indicate 28.75kV ±1.25kV for the 20–inch receivers and 29.25kV ±1.25kV for the 27–inch receivers. If the upper limit is out of tolerance, immediate service and correction is required to insure safe operation and to prevent the possibility of premature component failure.

Horizontal Oscillator Disable Circuit Test

This test must be performed as a final check before the Receiver is returned to the customer. See **Horizontal Oscillator Disable Circuit Procedure Check** in this manual.

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Service Notes

NOTE: ***These components are affixed with glue. Be careful not to break or damage any foil under the component or at the pins of the ICs when removing. Usually applying heat to the component for a short time while twisting with tweezers will break the component loose.***

Leadless Chip Components (surface mount)

Chip components must be replaced with identical chips due to critical foil track spacing. There are no holes in the board to mount standard transistors or diodes. Some chip capacitor or resistor board solder pads may have holes through the board, however the hole diameter limits standard resistor replacement to 1/8 watt. Standard capacitors may also be limited for the same reason. It is recommended that identical chip components be used.

Chip resistors have a three digit numerical resistance code – 1st and 2nd significant digits and a multiplier. Example: 162 = 1600 or 1.6KΩ resistor, 0 = 0Ω (jumper).

Chip capacitors generally do not have the value indicated on the capacitor. The color of the component indicates the general range of the capacitance.

Chip transistors are identified by a two letter code. The first letter indicates the type and the second letter, the grade of transistor.

Chip diodes have a two letter identification code as per the code chart and are a dual diode pack with either common anode or common cathode. Check the parts list for correct diode number.

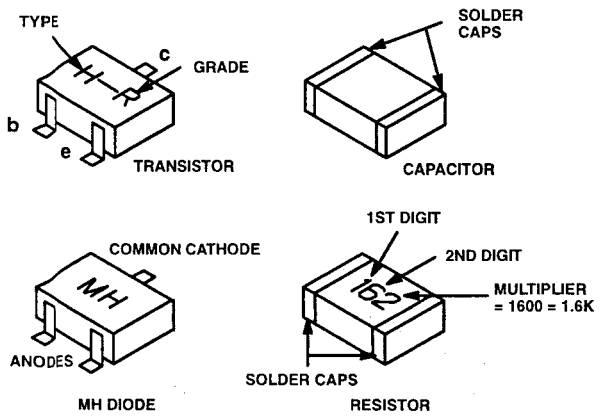
Component Removal

1. Use solder wick to remove solder from component end caps or terminals.
2. Without pulling up, carefully twist the component with tweezers to break the adhesive.
3. Do not reuse removed leadless or chip components since they are subject to stress fracture during removal.

Chip Component Installation

1. Put a small amount of solder on the board soldering pads.
2. Hold the chip component against the soldering pads with tweezers or with a miniature alligator clip and apply heat to the pad area with a 30 watt iron until solder flows. Do not apply heat for more than 3 seconds.

Chip Components

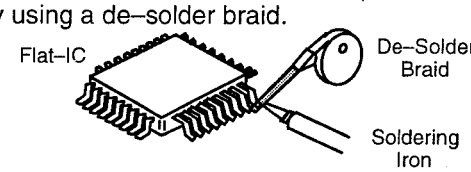


How to Replace Flat–IC

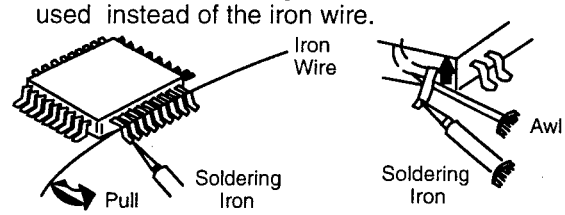
– Required Tools –

- Soldering iron
- De–solder braids
- Iron wire or small awl
- Magnifier

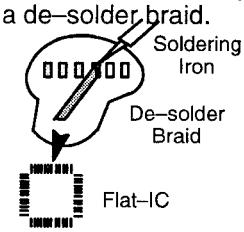
1. Remove the solder from all of the pins of a Flat–IC by using a de–solder braid.



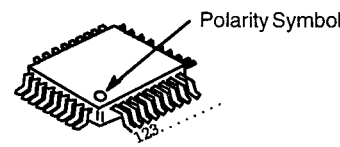
2. Put the iron wire under the pins of the Flat–IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.



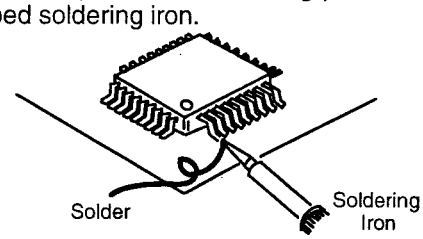
3. Remove the solder from all of the pads of the Flat–IC by using a de–solder braid.



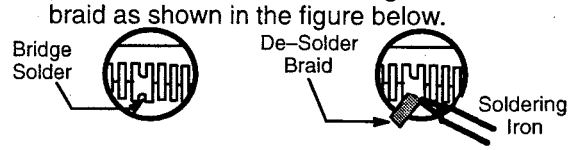
4. Position the new Flat–IC in place (apply the pins of the Flat–IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the soldering pads and pins by correctly aligning the polarity symbol.



5. Solder all pins to the soldering pads using a fine tipped soldering iron.



6. Check with a magnifier for solder bridge between the pins or for dry joint between pins and soldering pads. To remove a solder bridge, use a de–solder braid as shown in the figure below.



Service Notes (Continued)

IMPORTANT: To protect against possible damage to the solid state devices due to arcing or static discharge, make certain that all ground wires and CRT DAG wire are securely connected.

CAUTION: The power supply circuit is above earth ground and the chassis cannot be polarized. Use an isolation transformer when servicing the Receiver to avoid damage to the test equipment or to the chassis. Connect the test equipment to the proper ground (⏚) or (⏚) when servicing, or incorrect voltages will be measured.

WARNING: This Receiver has been designed to meet or exceed applicable safety and X–ray radiation protection as specified by government agencies and independent testing laboratories.

To maintain original product safety design standards relative to X–ray radiation and shock and fire hazard, parts indicated with the symbol ⚠ on the schematic must be replaced with identical parts. Order parts from the manufacturer's parts center using the part numbers shown in this service manual, or provide the chassis number and the part reference number.

For optimum performance and reliability, all other parts should be replaced with components of identical specifications.

Horizontal Oscillator Disable Circuit

This chassis employs a special circuit to protect against excessive high voltage and beam current. If, for any reason, the high voltage and beam current exceed a predetermined level this protective circuit activates and detunes the horizontal oscillator that limits the high voltage.

The over–voltage protection circuit is not adjustable. However, if components indicated by the symbol ⚠ on the schematic in either the horizontal sweep system or the over–voltage protection circuit itself are changed, the operation of the circuit should be checked using the following procedure.

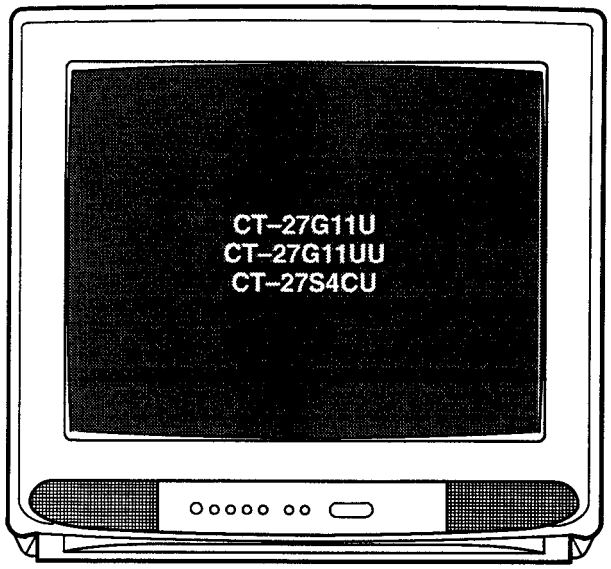
Equipment needed to check the disable circuit:

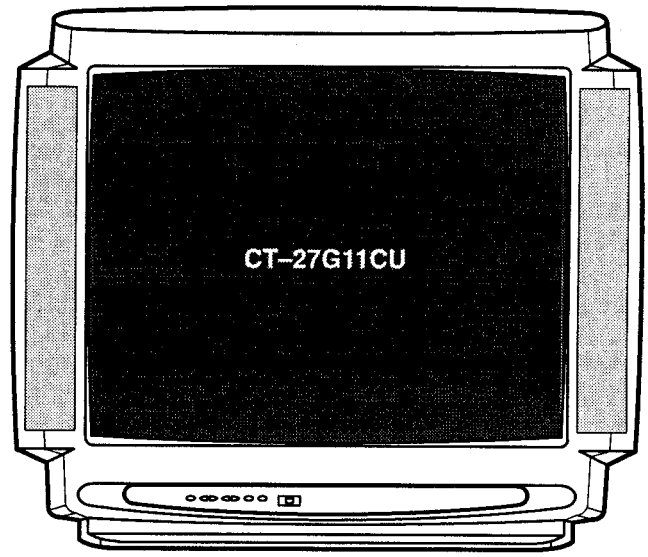
1. Voltmeter (0 – 200V scale)
2. High Voltage Meter (0 – 40kV)
3. Variac or Isolation Transformer

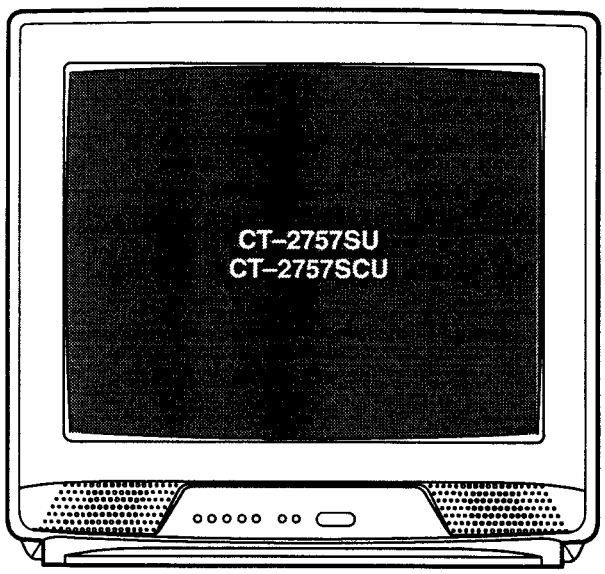
Procedure:

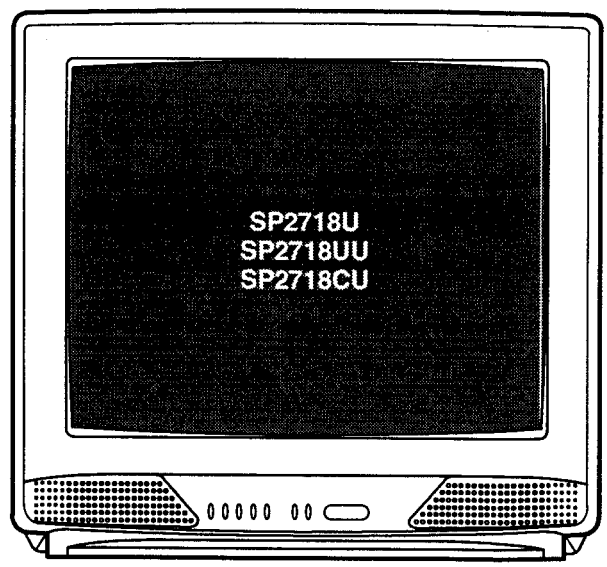
1. Tune in a station to verify that the horizontal is in sync.
2. Obtain a Monoscope pattern or a signal generator crosshatch pattern.
3. Connect the voltmeter (–) lead to TPD2 and the (+) lead to TPD1 (junction of D555 anode, R556 & R557). Set **Bright** level to (0) and **Picture** for a 0.9 volt reading on the voltmeter.
4. Turn the Receiver OFF. Connect a jumper across (+) side of C805 and IC802 pin 1.
5. Reduce the AC supply voltage to approximately 100V. Connect the high voltage meter to the CRT 2nd anode (H.V. button). **NOTE:** Use the Dag Ground (C10 of the CRT Board) to connect the (–) lead of the meter.
6. Turn the Receiver ON. Slowly increase the AC supply voltage and verify that the high voltage does not exceed **34.2kV for a 20–inch Receiver** and **35.5kV for a 27–inch Receiver**, when horizontal just begins to pull out of sync. If the high voltage is not within the specified limit, the cause must be determined and corrected before the Receiver is returned to the customer.

27" MODELS

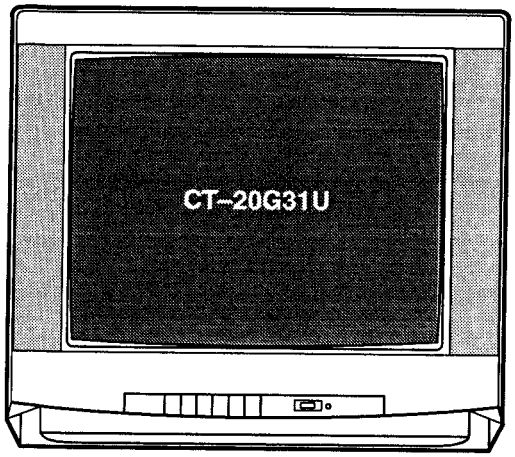

CT-27G11U
CT-27G11UU
CT-27S4CU

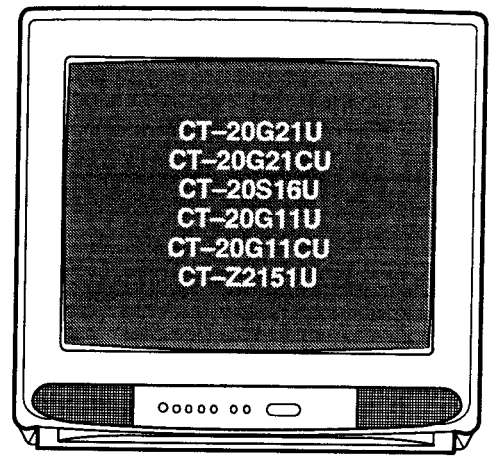

CT-27G11CU


CT-2757SU
CT-2757SCU

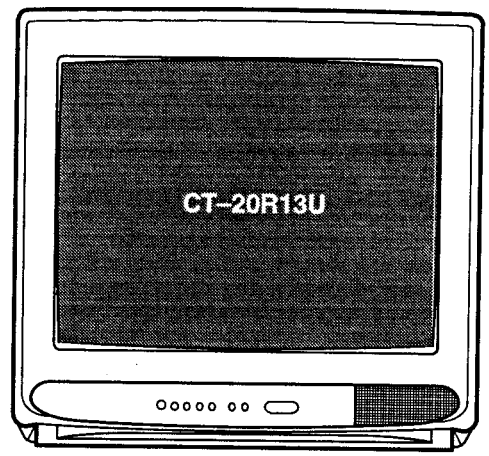

SP2718U
SP2718UU
SP2718CU

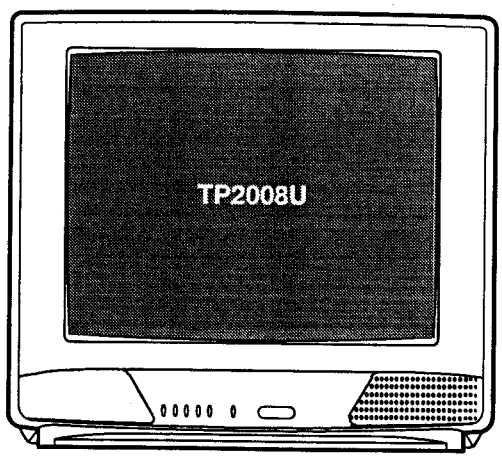
20" MODELS

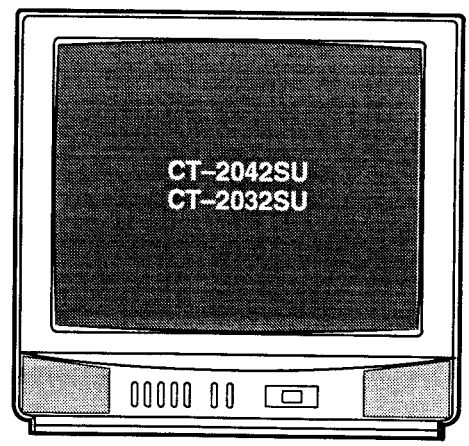

CT-20G31U


CT-20G21U
CT-20G21CU
CT-20S16U
CT-20G11U
CT-20G11CU
CT-Z2151U

SP2018U
SP2018CU


CT-20R13U


TP2008U


CT-2042SU
CT-2032SU

Features

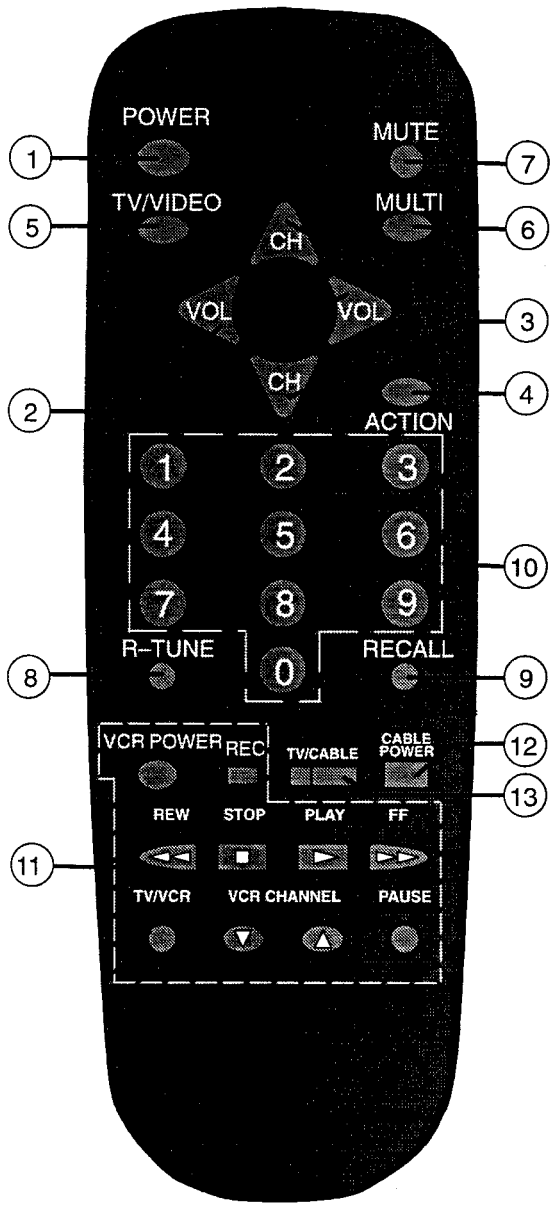
MODEL / FEATURE	CT-20G31 U	CT-20G21 CU/U	CT-20S16 U	CT-20G11 CU/U	CT-Z2151 U	CT-2042 SU	CT-2032 SU
Menu Language	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR
Closed Caption	X	X	X	X	X	X	X
# of channels / Phase	181/22	181/22	181/22	181/22	181/22	181/22	181/22
V/A Norm (x=both)	V	V	V	V	V	V	V
MTS/SAP/DBX	X	X	X	X	X	X	X
Built-in audio power	1.5W X 2 (10%)	1.5W X 2 (10%)	1.5W X 2 (10%)	1.5W X 2 (10%)	1.5W X 2 (10%)	1.5W X 2 (10%)	1.5W X 2 (10%)
# of speakers	2	2	2	2	2	2	2
AI Sound	X	X	X				
V/A in	1	1	1	1	1	1	1
Var Audio out (0~3.5V RMS, 4K)	X	X	X				
Remote	EUR511000A	EUR511000A	EUR501337	EUR501337	EUR501337	EUR511000A	EUR501337
CRT	A51KQN011X	A51KQN011X	A51KQN011X	A51KQN011X	A51KQN011X	A51KQN011X	A51KQN011X
Dimensions (mm) (WxHxD) (in)	549x457x475/ 21.6x18x18.7	508x463x481/ 20x18.2x18.9	508x463x481/ 20x18.2x18.9	508x463x481/ 20x18.2x18.9	508x463x481/ 20x18.2x18.9	508x463x481/ 20x18.2x18.9	508x463x481/ 20x18.2x18.9
Weight (kg/lb)	23.54/51.9	21/46.2	21/46.2	21/46.2	21/46.2	21/46.2	21/46.2
Miscellaneous	On timer LED						
Power source (V/Hz)	120/60	120/60	120/60	120/60	120/60	120/60	120/60
Power consumption (A)	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Antenna terminal impedance	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input
Anode voltage	28.75kV ± 1.25kV	28.75kV ± 1.25kV	28.75kV ± 1.25kV	28.75kV ± 1.25kV	28.75kV ± 1.25kV	28.75kV ± 1.25kV	28.75kV ± 1.25kV
Video input jack	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type
Audio input jack	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance
Comb filter	X	X	X	X	X	X	X
"A" board TNPH0041 version	AD	AE	AE	AF	AF	AR	AR
"C" board TNPA0199 version	AB	AB	AB	AB	AB	AB	AB

Features (Continued)

SP2018 CU/U	CT-20R13 U	TP2008 U	CT-27G11 UU/U	CT-27G11 CU	CT-2757 SU/CU	CT-27S4 CU	SP2718 SU/CU/U
ENG/SP/FR	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR	ENG/SP/FR
X	X	X	X	X	X	X	X
181/22	181/22	181/22	181/22	181/22	181/22	181/22	181/22
V	V	V	X	X	X	X	X
X			X	X	X	X	X
1.5W X 2 (10%)	1.5W X 1 (10%)	1.5W X 1 (10%)	1.5W X 2 (10%)	1.5W X 2 (10%)	1.5W X 2 (10%)	1.5W X 2 (10%)	1.5W X 2 (10%)
2	1	1	2	2	2	2	2
			X	X		X	
	1		1	1	1	1	1
			X	X	X	X	
EUR501345	EUR501337	EUR501345	EUR511000A	EUR511000A	EUR511000A	EUR511000A	EUR501344
A51ACG30X	A51KQN011X	A51ACG30X	M68LGL061X	M68LGL061X	M68LGL061X	M68LGL061X	M68LGL061X
510x467x476/ 20.1x18.4x18.7	508x463x481/ 20x18.2x18.7	510x467x476/ 20.1x18.4x18.7	660x600x530/ 26x23.6x20.9	768x596x529/ 30.2x23.5x20.8	660x600x530/ 26x23.6x20.9	660x600x530/ 26x23.6x20.9	661x600x534/ 26x23.6x21
19.7/43.5	21/46.2	19.73/43.5	34.6/76.12	35.5/78.1	34.6/76.12	34.6/76.12	36.5/80.5
120/60	120/60	120/60	120/60	120/60	120/60	120/60	120/60
1.7	1.6	1.6	2.0	2.0	2.0	2.0	2.0
1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input	1-UHF/VHF 75Ω input
28.75kV ± 1.25kV	28.75kV ± 1.25kV	28.75kV ± 1.25kV	29.25kV ± 1.25kV	29.25kV ± 1.25kV	29.25kV ± 1.25kV	29.25kV ± 1.25kV	29.25kV ± 1.25kV
1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type	1V p-p 75Ω phono jack type
500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance	500mV RMS high impedance
X	X	X	X	X	X	X	X
AG	AH	AJ	AA	AQ	AC	AA	AB
AB	AB	AB	AA	AA	AA	AA	AA

Universal Remote
Location of Controls

EUR511000A



CT-20G31U, CT-20G21U, CT-20G21CU, CT-2042SU, CT-27G11U, CT-27G11UU, CT-27G11CU, CT-2757SU, CT-2757SCU, CT-27S4CU

Quick Reference Control Operation

(1) **Power Button** – Press to turn ON or OFF.

(2) **Vol (Volume) Buttons** – Press to adjust Sound Level. Press to adjust Audio Menus, Video Menus and select operating features when menus are displayed.

(3) **Ch (Channel) Buttons** – Press to select programmed channels. Press to highlight desired features when menus are displayed. Also used to select Cable Converter box channels after programming Remote Control Infrared codes (the TV/CABLE switch must be set in the CABLE position).

(4) **Action Button** – Press to display Main Menu and access On Screen feature and Adjustment Menus.

(5) **TV/Video Button** – Press to select TV or Video Input.

(6) **Multi Button** – Programmable to operate up to six Remote Function buttons.

(7) **Mute Button** – Press to mute sound. A second press resumes sound.

(8) **R–Tune (Rapid Tune) Button** – Press to toggle between two channels.

(9) **Recall Button** – Press to display Time, status of Sleep Timer, Channel, Video Mode, Channel Caption and Audio Mode.

(10) **Keyboard "0 through 9" Buttons** – Press desired channel number to access any channel.

(11) **VCR Function Buttons** – Programmable to operate many brands of VCRs (TV/VCR/CABLE switch must be in TV position).

(12) **Cable Power Button** – Programmable to operate selected CATV converter boxes.

(13) **TV/Cable Switch** – This switch is used to select the proper mode when programming Remote Control Infrared codes or operating the TV or external equipment (VCR or Cable Converter box).

Universal Remote Control
Quick Reference Functional Key Chart

KEY	OPERATES	FUNCTION
POWER	**TV**	Turns TV On and Off
MUTE	**TV**	Mutes TV Audio
TV/VIDEO	**TV**	Selects the TV Input Mode
MULTI	**ALL COMPONENTS**	Programmable button that can operate up to six Remote Functions at once
ACTION	**TV**	Activates TV Menus
CH / VOL / VOL / CH	**TV** **CABLE** **TV** **CABLE**	Channel Up/Down, Menu Navigation Channel Up/Down Volume Up/Down, Menu Navigation Search For Infrared Code When Programming Remote
1 2 3 4 5 6 7 8 9 0	**TV** **VCR** **CABLE**	Selects Channel Selects code in Game Guard Menu Selects Channel in Channel Caption Menu Selects Channel in Timer Menu Selects Infrared code when programming remote Selects Infrared code when programming remote
R-TUNE	**TV**	Selects Previously Tuned Channel
RECALL	**TV**	Displays Channel, Time, and Audio Mode
TV/CABLE	**TV** **CABLE**	TV Mode Selection for Remote Control Also VCR Mode Selection for Remote Control CATV Mode Selection for Remote Control
CABLE POWER	**CABLE**	Turns Cable On and Off
VCR POWER	**VCR**	Turns VCR On and Off
REC REW STOP PLAY FF TV/VCR VCR CHANNEL PAUSE	**VCR**	**Standard VCR Control Keys** REC Record REW Rewind STOP Stop PLAY Play FF Fast Forward TV/VCR Selects TV/VCR Mode VCR CHANNEL VCR Channel Up/Down PAUSE Pause

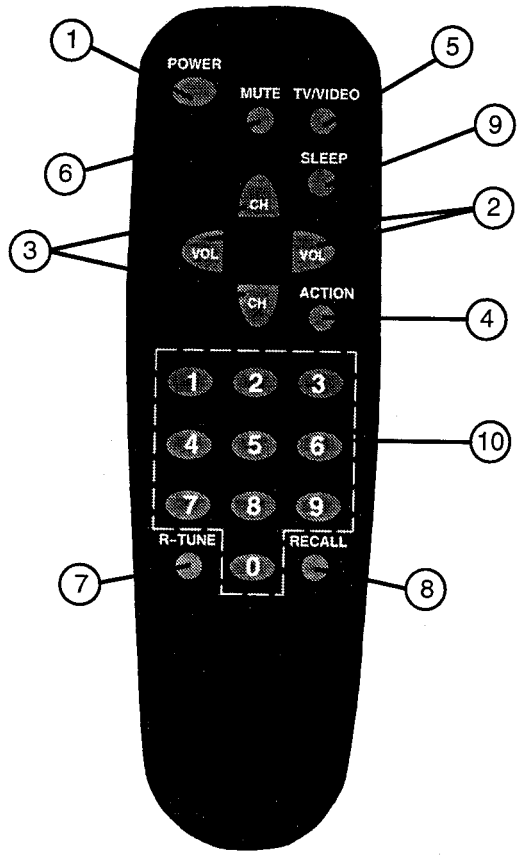
OPERATION

Remote Control
Location of Controls

EUR501337

CT-20S16U, CT-20G11U,
CT-20G11CU, CT-Z2151U,
CT-2032SU, CT-20R13U

EUR501344



SP2718U,
SP2718UU,
SP2718CU

EUR501345

SP2018U,
SP2018CU,
TP2008U

Quick Reference Control Operation

(1) **Power Button** – Press to turn ON or OFF.

(2) **Volume Buttons** – Press to adjust Sound Level. Press to adjust Audio Menus, Video Menus, and select operating features when menus are displayed.

(3) **Channel Buttons** – Press to select programmed channels. Press to select desired features when menus are displayed.

(4) **Action Button** – Press to display Main Menu and access On Screen feature and Adjustment Menus.

(5) **TV/Video Button** – Press to select TV or Video Input.

(6) **Mute Button** – Press to mute sound. A second press resumes sound.

(7) **R-Tune (Rapid Tune) Button** – Press to toggle between two channels.

(8) **Recall Button** – Press to display Time, status of Sleep Timer, Channel, Video Mode and Channel Caption (Station Identifier).

(9) **Sleep Button** – Press to select automatic Turn OFF in 30, 60 or 90 minutes.

(10) **Keyboard "0 through 9" Buttons** – Press desired channel number to access any channel.

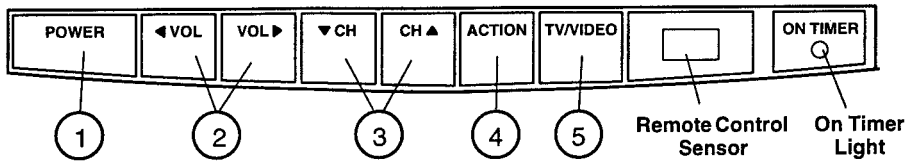
Remote Control
Quick Reference Functional Key Chart

KEY	OPERATES	FUNCTION
POWER OR POWER	TV	Turns TV On and Off
MUTE	TV	Mutes TV Audio
TV/VIDEO	TV	Selects the TV Input Mode
ACTION OR ACTION	TV	Activates TV Menus
CH VOL VOL CH	TV OR	Channel Up/Down, Menu Navigation
OR CH VOL VOL CH	TV OR	Volume Up/Down, Menu Navigation
1 2 3 4 5 6 7 8 9 0 OR 1 2 3 4 5 6 7 8 9 0	TV	Selects Channel Selects code in Game Guard Menu Selects Channel in Channel Caption Menu Selects Channel in Timer Menu
R-TUNE	TV	Selects Previously Tuned Channel
RECALL	TV	Displays Channel, Time, and Audio Mode
SLEEP OR SLEEP	TV	Selects 30, 60 Or 90 Minutes For Automatic Turn Off also use to turn sleep timer off by selecting NO

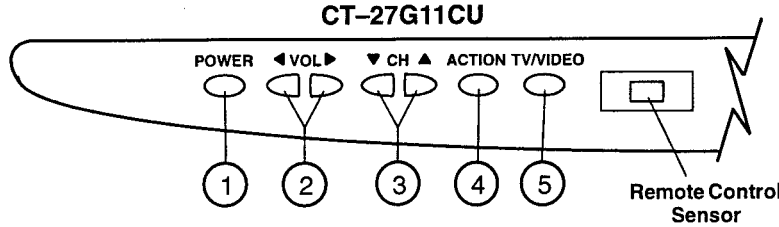
Location of Controls

Receiver Front Control Panel

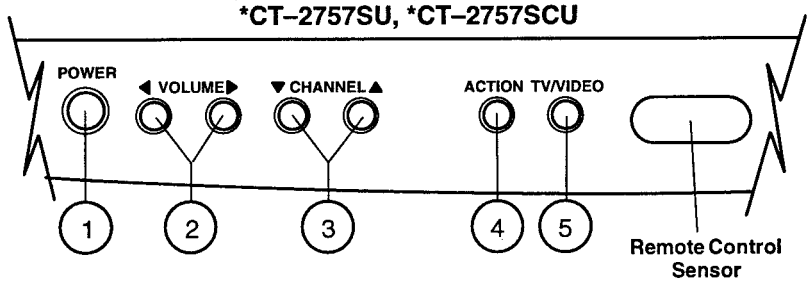
CT–20G31U



CT–27G11CU

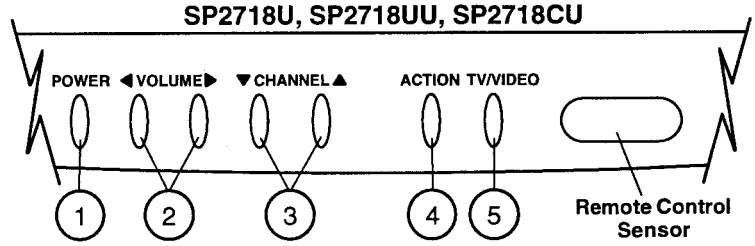


CT–27G11U, CT–27G11UU, CT–27S4CU,
CT–20G21U, CT–20G21CU, CT–20S16U,
CT–20G11U, CT–20G11CU, CT–Z2151U, CT–20R13U
***CT–2757SU, *CT–2757SCU**

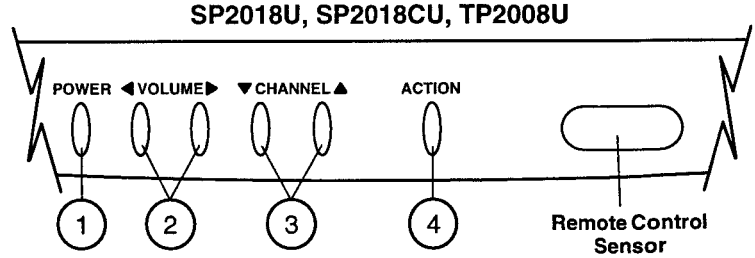


* Front Control Panel is similar except for the size of the power switch.

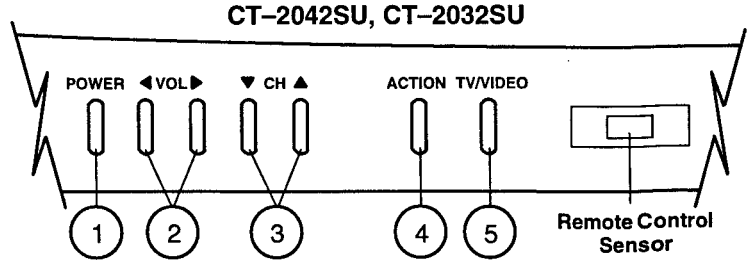
SP2718U, SP2718UU, SP2718CU



SP2018U, SP2018CU, TP2008U



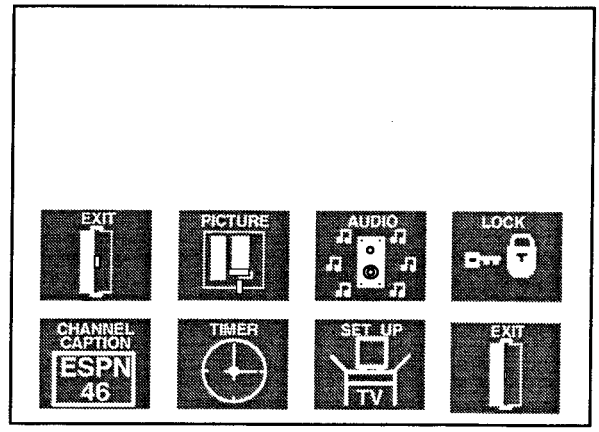
CT–2042SU, CT–2032SU



Quick Reference Control Operation

1. **Power Button** – Press to turn ON or OFF.
2. **Volume Buttons** – Press to adjust Sound Level. Press to adjust Audio Menus, Video Menus, and select operating features when menus are displayed.
3. **Channel Buttons** – Press to select programmed channels. Press to select desired features when menus are displayed.
4. **Action Button** – Press to display Main Menu and access On Screen feature and Adjustment Menus.
5. **TV/Video Button** – Press to select TV or Video Input.

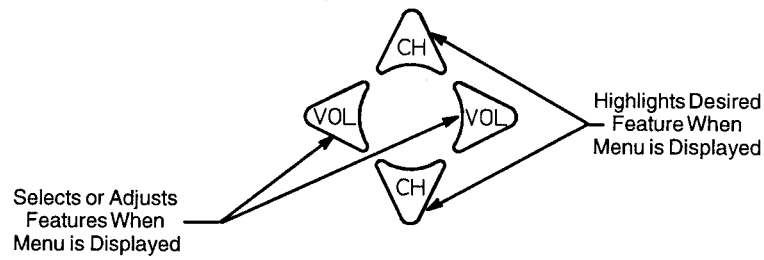
Main Menu Icons Selection



Located On Remote Control

Displays and Exits Menus

ACTION



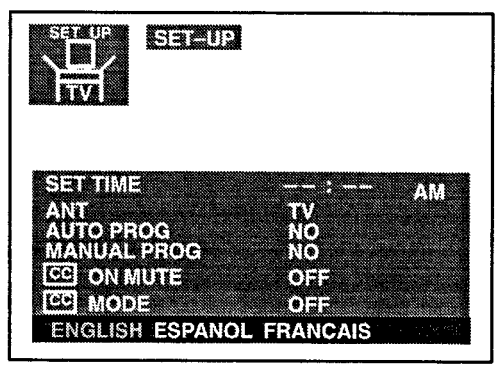
OPERATION

1. Press the ACTION button to display the Main Menu.
2. Press the CH UP or DOWN and the VOL LEFT or RIGHT buttons to move from one icon to another. The selected Icon will be indicated in Red. Press the VOL buttons to move horizontally and the CH buttons to move vertically.
3. Press the ACTION button after selecting the desired Icon.
4. Select the EXIT Icon, then press the ACTION button to exit.

Trilingual Menu Selection

The Language Menu is factory set to ENGLISH. Follow these instructions to change the Language Menu to Spanish or French and back to English.

1. Press the ACTION button to display the Main Menu.
2. Press the CH UP/DOWN and VOL LEFT/RIGHT buttons to highlight the SET–UP Icon.
3. Press the ACTION button to display the SET–UP Menu.



4. Press the CH UP or DOWN button to highlight "ENGLISH ESPANOL FRANCAIS."
5. Press the VOL LEFT or RIGHT button to select "ENGLISH", "ESPANOL" or "FRANCAIS".
6. Press the ACTION button twice to exit the SET–UP Menu.

Programming The Universal Remote Control

VCR

Preferred Procedure – Code Known

Programming the Universal Remote Using Infrared Access Codes for VCRs

- Determine brand of VCR.
- Identify code(s) associated with the brand in the infrared code index for VCRs (located in this manual).

Procedure

1. Place the Remote TV/CABLE switch into the TV position (Left).

2. Press and hold down the VCR POWER button on the Universal Remote.

3. Enter the two digit code using keyboard "0 through 9" buttons. Release the VCR Power button. The Universal Remote is now programmed.

NOTE: Some brands have multiple codes. Repeat the procedure using each code listed until the VCR responds correctly.

Alternate Procedure – Code Unknown

Programming the Universal Remote Using the "Sequence Method" for VCRs

- Confirm that the VCR is plugged in and operating properly, then turn OFF.

Procedure

1. Place the Remote TV/CABLE switch into the TV position (Left).

2. Press and hold down the VCR POWER button on the Universal Remote.

3. Press the VOL RIGHT button repeatedly. Check for the VCR to turn ON after each press. When the VCR turns ON, release the VCR Power button. The proper infra–red code has now been accessed.

NOTE:

1. It may take several attempts before the correct code is found.
2. The VOL LEFT button can be used to return to a code that was accidently passed by.
3. Some Remote Controls may have unique operating functions for some buttons. For Example: The POWER button may only turn the VCR OFF as opposed to both ON and OFF. It will then be necessary to modify the procedure. Turn the VCR ON and repeatedly press the VOL RIGHT button until the VCR turns OFF.

Cable Converter Box

Preferred Procedure – Code Known

Programming the Universal Remote Using Infrared Access Codes for Cable Television Converter Boxes

- Determine the brand of the Cable Converter box.
- Identify the code(s) associated with the brand in the infrared code index for Cable Television Converter boxes (located in this manual).

Procedure

1. Place the Remote TV/CABLE switch into the CABLE position (Right).

2. Press and hold down the CABLE POWER button on the Universal Remote.

3. Enter the two digit code using keyboard "0 through 9" buttons. Release the CABLE Power button. The Universal Remote is now programmed. **Use the Remote CHANNEL UP/DOWN buttons for selecting the Cable Converter Box channels.**

NOTE: Some brands have multiple codes. Repeat procedure using each code listed until Cable Television Converter box responds correctly.

Alternate Procedure – Code Unknown

Programming the Universal Remote Using the "Sequence Method" for Cable Television Converter Boxes

- Confirm that the Cable Television Converter box is plugged in and operating properly, then turn it OFF.

Procedure

1. Place the Remote TV/CABLE switch into the CABLE position (Right).

2. Press and hold down the CABLE POWER button on the Universal Remote.

3. Press the VOL RIGHT button repeatedly. Check for the Cable Television Converter box to turn ON after each press. When the Cable Television Converter box turns ON, release the Cable Power button. The proper infrared code has now been accessed.

NOTE:

- It may take several attempts before the correct code is found.
- The VOL LEFT button can be used to return to a code that was accidently passed by.
- Some Remote Controls may have unique operating functions for some buttons. For Example: The POWER button may only turn the Cable Television Converter box OFF as opposed to both ON and OFF. It will then be necessary to modify the procedure. Turn the Cable Television Converter box ON and repeatedly press the VOL RIGHT button until the Cable Television Converter box turns OFF.

NOTE: When operating equipment (VCR or Cable Converter box) with the Universal Remote Control, the TV/CABLE Switch should be set to the same position where the Access Code was first programmed for that equipment. Otherwise, leave the switch in the TV position.

OPERATION

VCR and Cable Converter Box Infrared Codes Index

The Universal infrared Remote Control is capable of operating many brands of VCRs and Cable Television Converter Boxes after entering the proper infrared code.

NOTE: The Universal Remote Control memory is limited. Some models of VCRs or Cable Television Converter Boxes may not operate. The Universal Remote Control is not designed to control all features that are available in all models.

EUR511000A

Infrared Code Index For VCRs

VCR Brand	Code(s)	VCR Brand	Code(s)
Audio Dynamics	14, 16	NEC	02, 14, 16, 30
Broksonic	10	Panasonic	00, 01
Canon	00, 01	Pentax	05
Capehart	01	Philco	00, 29
Citizen	09	Philips	00, 29
Craig	12	Pioneer	05
Curtis Mathes	00, 08, 15	Quasar	00, 01
DBX	14, 16	RCA	05, 07, 08, 28, 35
Emerson	10, 20, 34, 35, 36, 37	Realistic	00, 02, 06, 12, 15
Fisher	12, 18, 19	Samsung	07, 32
Funai	15	Sanyo	02, 12
GE	00, 07, 08, 32	Scott	04, 13, 33, 36
Goldstar	09	Sears	02, 05, 18, 19
Hitachi	05, 35, 36	Sharp	06, 24
Instant Replay	00	Sony	17, 26, 33, 34
JC Penney	00, 02, 05, 14, 16, 30	Sylvania	00, 29
JVC	02, 14, 16, 30	Symphonic	15
Kenwood	02, 14, 16, 30	Tashiko	09
Magnavox	00, 29	Tatung	30
Marantz	02, 14, 16, 29, 30	Teac	15, 30
Marta	09	Teknika	21
Memorex	00, 12	Toshiba	05, 13
MGA	04, 27	Vector Research	14, 16
Minolta	05	Video Concepts	14, 16
Mitsubishi	04, 27	Wards	06
Montgomery Ward	06	Yamaha	02, 14, 16, 30
Multitech	07, 15, 32	Zenith	11, 17

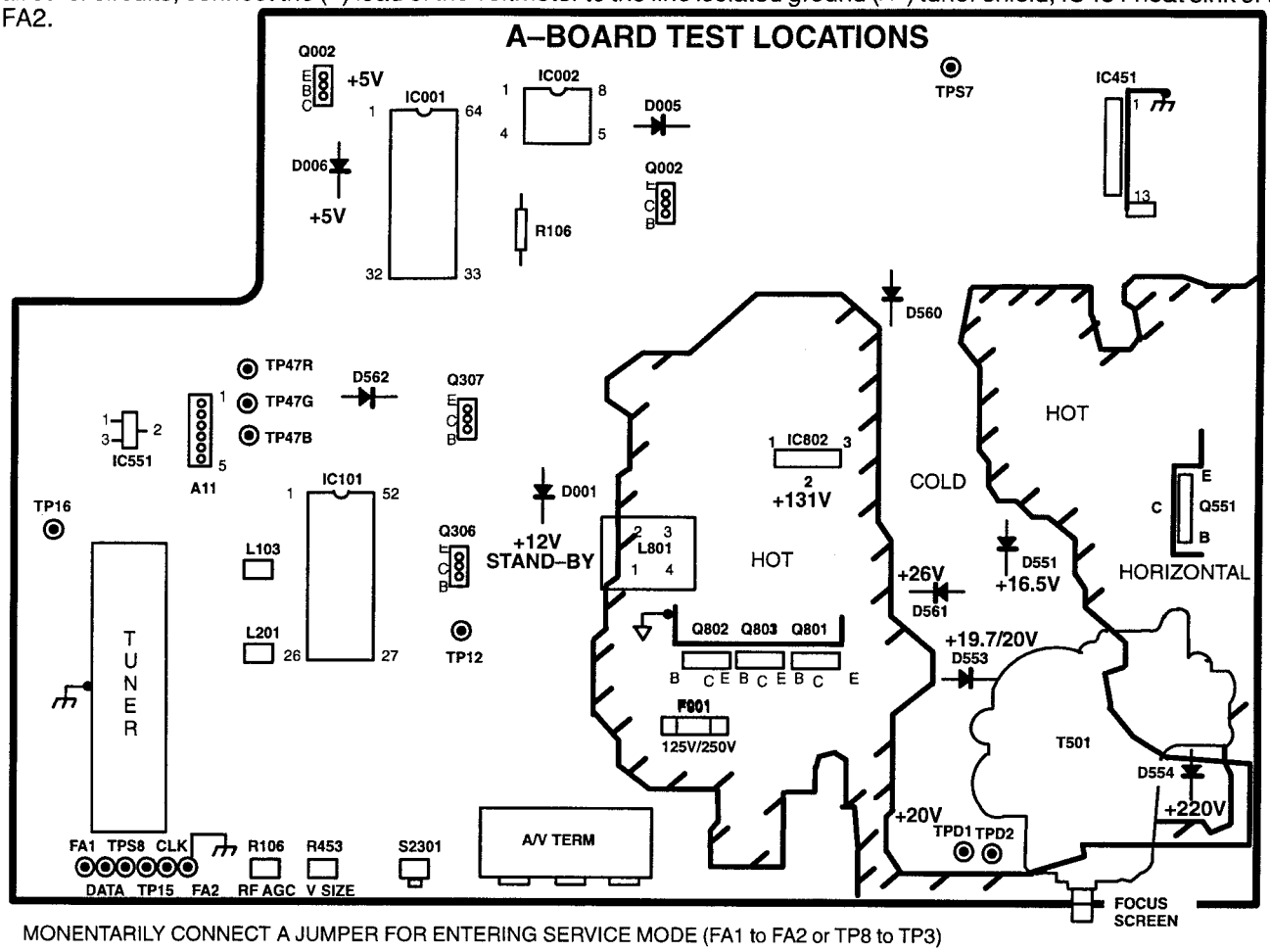
Infrared Code Index For Cable Television Converter Box

Brand of Cable–TV Box	Code(s)	Brand of Cable–TV Box	Code(s)
G.I.	04, 05, 15, 23, 24, 25, 30, 36	Pioneer	18, 20
Hamlin	12, 13, 34	RCA	27
Jerrold	04, 05, 15, 23, 24, 25, 30, 36	Regency	02
Macom	27	Scientific Atlantic	03, 22
Magnavox	19, 26, 28, 29, 32, 33, 40, 41	Sylvania	11
Oak	14,16, 18	Texscan	10, 11
Oak Sigma	16	Tocom	17, 21
Panasonic	27, 39	Unika	31
Philips	19, 26, 28, 29, 32, 33, 40, 41	Viewstar	19, 26, 28, 29, 32, 33, 40, 41
		Zenith	01, 42

Chassis Service Adjustment Procedures

All service adjustments are factory preset and should not require adjustments unless controls and/or associated components are replaced.

NOTE: Connect the (–) lead of the voltmeter to the appropriate ground for the circuit being checked. When necessary to use a line operated ground, the ground indication (⏚) is marked. For this ground use Q801 or Q802 heat sinks. For all other circuits, connect the (–) lead of the voltmeter to the line isolated ground (⏚) tuner shield, IC451 heat sink or to FA2.



MONENTARILY CONNECT A JUMPER FOR ENTERING SERVICE MODE (FA1 to FA2 or TP8 to TP3)

131.0V B+ Voltage Confirmation

1. Set the **Bright** and the **Picture** to Minimum by using the Picture Menu.
2. Connect a DVM between IC802 pin 1 and Hot ground (⏚).
3. Confirm that B+ voltage is 131.0V±1.0V. This voltage supplies B+ to the Horizontal Output & Flyback circuits.

Source Voltage Chart

120V AC line input. Set the **Bright** and the **Picture** to Minimum by using the Picture Menu . Use cold ground (⏚) for the (–) lead of the DVM.

IC551 pin 3	+9.0V ±0.5V
Cathode of D551 (TPD9)	+16.5V ±2V
Cathode of D553 (20–inch)	+19.7V ±2V
Cathode of D553 (27–inch)	+20.0V ±2V
Cathode of D561 (TPD8)	+26.0V ±2V
Cathode of D554	+220V±15V

Adjust Picture menu for normalized video adjustments.

B+ 5V Source Voltages

Volatile 5V:

Cathode D562 = Tuner BP, IC101 (B+ V_{CC}), RF AGC (R106).

MPU 5V:

Emitter Q002 = IC001(V_{DD}).

Standby 5V:

Cathode D006, IC001 (Key in 1), I^2C EEPROM (IC002), TIMER LED, Remote Receiver.

B+ 9V Source Voltage

Cathode D560 = IC101 (B+ V_{CC}) (HOLD DOWN) (AFC OUT), Q306 (Video), Q307 (Closed Caption E.F.), Tuner (BM).

B+ 12V (Stand–by) Note: +16V when power is on

Cathode D001 = RL801 (on–off relay), Q002 (+5V Reg), IC101 (Horiz. Vcc).

High Voltage Check

1. Select an active TV channel and confirm that horizontal is in sync.
2. Adjust Brightness and Picture using Picture Icon menu so video just disappears.
3. Confirm B+ 131V is within limit.
4. Using a high voltage meter confirm that the High Voltage is 28.75kV ±1.25kV for the 20–inch models and 29.25kV ±1.25kV for the 27–inch models.

SERVICE

Disassembly for Service

Back Cover

Remove all the screws marked with an arrow (◄) from the back of the Receiver.

Note: screw configuration and number of screws may vary depending on the model of the Receiver serviced; various models are covered in this Manual.

1. 3 screws at the top edge of the Receiver.
2. 1 screw by the AC line cord.
3. 1 screw by the A/V jacks.
4. 2 screws at the bottom edge of the Receiver.

A–Board – Main Chassis

1. Remove the plastic rivit from the right rail.
2. Slide the chassis completely out of the guide rails. **NOTE:** Some tie–wraps that secure the wire dressings may need to be unfastened for chassis removal.
3. Stand the Receiver on its edge. The underside of the board is completely accessible for component replacement.

C–Board – CRT Output

Plugs into the socket on the CRT neck.

Keyboard Push Button Assembly

Fastened to the inside of the cabinet front by 3 screws.

Speakers

1. Secured to the cabinet speaker bracket by 4 screws.
2. Speaker bracket is secured to the cabinet by 2 screws.

Disassembly for CRT Replacement

1. Discharge the CRT as instructed in the **Safety Precautions**.
2. Disconnect the yoke plug ,degaussing coil plug and the CRT 2nd anode button from the main board .
3. Remove the C–Board from the CRT base and unplug the black wire (CRT dag ground) C10–1 from the board.
4. Disconnect the A12 and SP plugs from the A–Board.
5. Slide the main chassis assembly completely out with the CRT Board attached.

CRT Replacement

1. Perform **Disassembly for CRT Replacement** procedure.
2. Insure that the CRT H.V. anode button is discharged before handling the CRT. See the **Safety Precautions** on handling the picture tube.
3. Remove the components from the CRT neck and place the cabinet face down on a soft pad.
4. Note the original order of the CRT mounting hardware as they are removed from the CRT mounting brackets at each corner of the CRT.
5. Remove the CRT with the degaussing coil and the dag ground braid attached.
6. Note the original locations and mounting of the degaussing coil and the dag ground assembly to insure proper reinstallation on the replacement CRT.

   To remove and re–mount the degaussing coil:
   The degaussing coil is held in place by clampers fastened to the CRT corner ears.
   These clampers must be installed onto the replacement CRT prior to mounting the degaussing coil.

   To remove and re–mount the dag ground braid:
   - Unhook the coil spring from the upper right CRT ear.
   - Release the braid loop from the upper left and the lower right CRT ear.
7. Mount the dag ground braid on the replacement CRT. Position the degaussing coil with new ties. Dress coil as was on the original CRT.
8. Replace the components on the CRT neck and re–install into cabinet. Verify that all ground wires and circuit board plugs get connected.

SERVICE

Purity and Convergence Procedure

Adjustment is necessary only if the CRT or the deflection yoke is replaced or if the setting was disturbed. The complete procedure consists of:

1. Initial static convergence.
2. Setting the purity.
3. Final static convergence.

When the CRT or the Yoke is Replaced

Place the yoke on the CRT neck (do not tighten the clamp).

For a 2–piece assembly (see Figure 1 below):

Position purity/convergence assembly as shown and tighten clamp snugly. Cut the hot–melt glue seal on assembly and place like tabs of purity device together at 12 o'clock to reduce its magnetic field effect. Manually degauss the CRT.

Turn the Receiver ON and slide the deflection yoke back and forth on the neck of the CRT. Stop at the position that produces a near white, uniform raster.

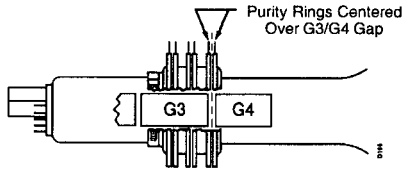


Figure 1
Positioning of Purity/Convergence Assembly
(2–piece assembly)

For a 1–piece assembly (see Figure 2 below):

Place like tabs of purity devices together at 12 O'Clock to reduce any magnetic field effect. Manually degauss the set.

Connect a Black/White pattern generator and tune the receiver to the signal. Slide the deflection yoke & purity ring assembly back and forth on the CRT neck. Stop at a position that produces a near white signal.

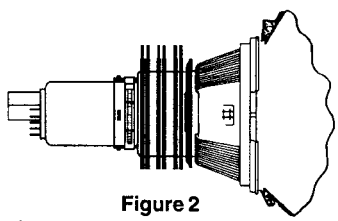


Figure 2
Positioning of Purity/Convergence Assembly
(1–piece assembly)

Initial Center Static Convergence

Connect a dot/crosshatch generator to the Receiver and tune in signal. Observe misconvergence at center of the screen only.

Adjust the 4 pole magnet (center rings); separate tabs and rotate to converge blue with red.

Adjust the 6 pole magnet (rear rings): separate tabs and rotate to converge blue and red (magenta) with green.
NOTE: Precise convergence at this point is not important.

Purity Adjustment

When the Receiver is in the Serviceman Mode for making electronic adjustments, press the **Recall** button on the Remote Control to enter Purity Check. (See **Service Adjustments Electronic Controls**.)

Operate the Receiver for 60 minutes using the first Purity check field (white screen) to stabilize the CRT.

Fully degauss the Receiver by using an external degaussing coil.

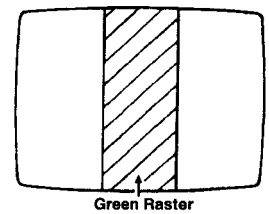
Press the **Recall** button on the Remote Control again until the Purity Check (green screen) appears.

For a 2–piece assembly (see Figure 1):

Loosen the deflection yoke clamp screw and move the deflection yoke back as close to the purity magnet as possible.

Adjust the front rings to set the vertical green raster precisely at the center of the screen. (shown below.)

NOTES:
1. CRT warm up with white screen (three guns activated) is needed to stabilize the shadow mask expansion.
2. Initial center static convergence (roughly centers three gun beams) is required in order to perform purity adjustment.



Slowly move the deflection yoke forward until the best overall green screen is displayed.

For a 1–piece assembly (see Figure 2):

Slowly move the deflection yoke and purity rings assembly toward the CRT board and adjust the purity magnet rings to set vertical green raster at center of screen (Shown above)

Gradually move the deflection yoke & purity rings forward and adjust for the best overall green screen.

Continue from here for either assemblies:

Tighten the deflection yoke clamp screw.

Press the **Recall** button on the Remote Control again until the Purity Check (blue screen) and (red screen) appear and observe that good purity is obtained on each respective field.

Press the **Recall** button on the Remote Control again until Purity check (white screen) appears. Observe the screen for uniform white. If purity has not been achieved, repeat the above procedure.

Final Convergence Procedure

NOTE: Vertical size and focus adjustments must be completed prior to performing the convergence adjustment. Connect a dot pattern generator to the Receiver. The **Brightness** level should not be higher than necessary to obtain a clear pattern.

Converge the red and blue dots at the center of the screen by rotating the 4 pole (R with B) Static Convergence Magnets.

Align the converged red/blue dots with the green dots at the center of the screen by rotating the 6 pole (R/B with G) Static Convergence Magnets. Melt wax with soldering iron to reseal the magnets.

Slightly tilt vertically and horizontally (do not rotate) the deflection yoke to obtain a good overall convergence.

If convergence is not reached at the edges, insert permalloy (see next page) from the DY corners to achieve proper convergence. Recheck for purity and readjust if necessary.

After vertical adjustment of the yoke, insert wedge at 11 o'clock position, then make the horizontal tilt adjustment.

Secure the deflection yoke by inserting two side wedges at 3 and 7 o'clock positions.

Apply adhesive between tab (thin portion) of wedge and CRT and place tape over the tab to secure to the CRT.

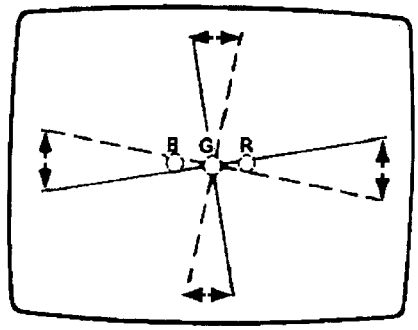
Permalloy Convergence Corrector Strip (Part No. OFMK014ZZ)

This strip is used in some sets to match the yoke and CRT for optimum convergence. If the yoke or CRT is replaced, the strip may not be required.

First converge the set without the strip and observe the corners.

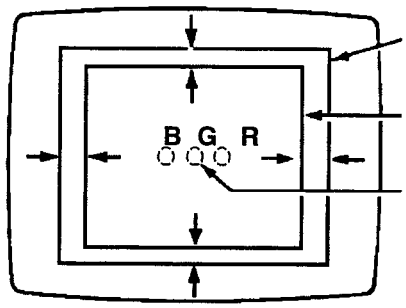
If correction is needed:

1. Place strip between CRT and yoke, in quadrant needing correction. Slowly move it around for desired results.
2. Press adhesive tightly to the CRT and secure with tape.



As the yoke is moved vertically, the rasters produced by the outside guns rotate in opposite directions.

VERTICAL YOKE MOVEMENT



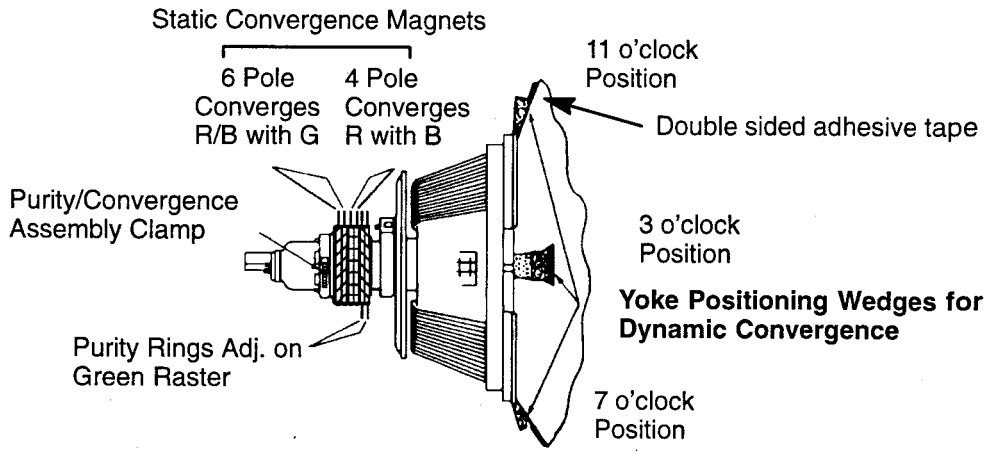
Raster produced from one of the outside electron beams

Raster from the other outside electron beam

Static convergence magnets are set for center convergence

As the yoke is moved horizontally, one raster gets larger while the other gets smaller

HORIZONTAL YOKE MOVEMENT


Static Convergence Magnets
6 Pole Converges R/B with G
4 Pole Converges R with B
11 o'clock Position
Double sided adhesive tape
Purity/Convergence Assembly Clamp
3 o'clock Position
Yoke Positioning Wedges for Dynamic Convergence
Purity Rings Adj. on Green Raster
7 o'clock Position

CONVERGENCE MAGNETS AND WEDGES LOCATION

SERVICE

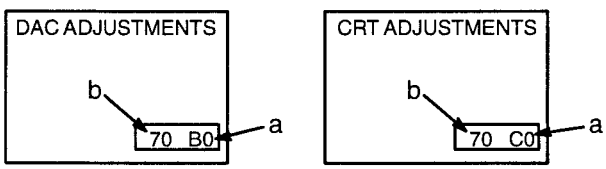
Serviceman Mode (Electronic Controls)

This Receiver has electronic technology using the I^2C Bus Concept. It performs as a control function and it replaces many mechanical controls. Instead of adjusting mechanical controls individually, many of the control functions are now performed by using the "On Screen Display Menu". (The **Serviceman Adjustment Mode**.)

NOTE: It is suggested that the technician reads all the way through and understand the following procedure for Entering/Exiting the **Serviceman Adjustment Mode**; then proceed with the instructions working with the Receiver. When becoming familiar with the procedure, the Flow Chart for Serviceman Mode may be used as a quick guide.

Entering Serviceman Mode:

1. While the Receiver is ON and operating in Normal Mode, momentarily short test point FA1 to cold ground (⏚) FA2. (TP pin 8 to pin 3)
   "The Receiver enters the Aging Mode".
   White letters "CHK" appear in the upper left corner of the CRT.
   (The Volume Up/Down will adjust rapidly.)
2. **Press** the **Action** and the **Volume Up** buttons on the Receiver Control Panel simultaneously.
   "The Receiver enters the Serviceman's Mode".
   The letters in "CHK" turn red.
   (The Volume Up/Down will adjust normally.)
   (All customer controls are set to a nominal level.)
3. **Press** the **Power** button on the Remote Control to select one of five Serviceman Adjustment Modes.
   - B = Serviceman VCJ SUB ADJUSTMENTS
   - C = Serviceman CUTOFF ADJUSTMENTS
   - S = Serviceman OPTIONS ADJUSTMENTS
   - M = Serviceman MTS ADJUSTMENTS
   - "CHK" = Normal operation of CHANNEL ▲▼ and VOLUME▲▼



An Address Menu appears in the bottom right hand corner of the screen.

For DAC Adjustments:

a.) Press Channel Up/Down on the Remote Control to select one of the 6 available Service Adjustments.

Important Note: Write down the original value set (b in detail) for each address before modifying anything. It is easy to erroneously adjust the wrong item.

b.) Press Volume Up/Down on the Remote Control to adjust the level of the selected Service Adjustment.

B0 = Sub Bright
↓
B1 = Sub Color
↓
B2 = Sub Tint
↓
B3 = Sub Contrast
↓
B4 = Video Adjust.
↓
B5 = Audio Adjust.

Adjustment Range and Default level values for Service Adj.

Service Adjustment	Adj Range	Default Level
Sub Bright (BO)	0 ~ 255	97
Sub Color (B1)	0 ~ 63	31
Sub Tint (B2)	0 ~ 63	33
Sub Contrast (B3)	0 ~ 63	21
Video Adjustment (B4)	0 ~ 15	8
Audio Adjustment (B5)	0 ~ 15	8

Press the **Power** button on the Remote Control to select the Serviceman CRT Adjustment Mode.

For CRT Adjustments:

a.) Press Channel Up/Down on the Remote Control to select one of the 6 available Service Adjustments.

Important Note: Write down the original value set (b in detail) for each address adjustment before modifying anything. It is easy to erroneously adjust the wrong item.

b.) Press Volume Up/Down on the Remote Control to adjust the level of the selected Service Adjustment.

C0 = Horiz. Center
↓
C1 = RED Cutoff
↓
C2 = GRN Cutoff
↓
C3 = BLU Cutoff
↓
C4 = RED Drive
↓
C5 = BLU Drive

Adjustment Range and Default level values for Service Adj.

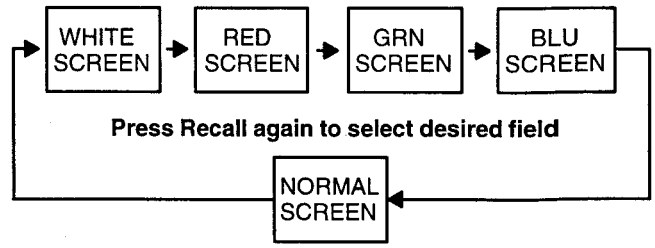
CRT Adjustment	Adj Range	Default Level
Horiz Centering (C0)	0 ~ 15	8
RED Cutoff (C1)	*0 ~ 255	128
GRN Cutoff (C2)	*0 ~ 255	128
BLU Cutoff (C3)	*0 ~ 255	128
RED Drive (C4)	0 ~ 255	128
BLU Drive (C5)	0 ~ 255	128

*Adjustment indicated in 2 steps (0 ~ 255) ➡ (1 ~ 255)

To Check Purity:

Press the **Recall** button on the Remote Control when in the B or C DAC Adjustment setting to enter the Purity Field Check Mode.

NOTE: The Receiver must be in the Serviceman Mode to display color.



SERVICE

Press the **Power** button on the Remote Control to select the Serviceman Options Adjustment Mode.

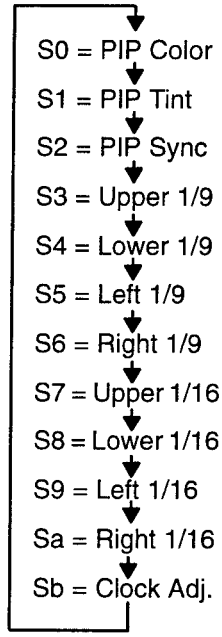
For Options Adjustments:

Note: Only the Clock Adj. is applicable to these Receivers.

a.) **Press Channel Up/Down** on the Remote Control to select one of the 12 available Options Adjustments.

Important Note: Write down the original value set (b in detail) for each address before modifying anything. It is easy to erroneously adjust the wrong item.

b.) **Press Volume Up/Down** on the Remote Control to adjust the level of the selected Service Adjustment.


S0 = PIP Color
S1 = PIP Tint
S2 = PIP Sync
S3 = Upper 1/9
S4 = Lower 1/9
S5 = Left 1/9
S6 = Right 1/9
S7 = Upper 1/16
S8 = Lower 1/16
S9 = Left 1/16
Sa = Right 1/16
Sb = Clock Adj.

Adjustment Range and Default level values for Service Adj.

Options Adjustment	Adj Range	Default Level
PIP Color (S0)	0 ~ 127	N/A
PIP Tint (S1)	0 ~ 127	N/A
PIP Sync (S2)	0 ~ 7	N/A
Upper 1/9 (S3)	0 ~ 255	N/A
Lower 1/9 (S4)	0 ~ 255	N/A
Left 1/9 (S5)	0 ~ 255	N/A
Right 1/9 (S6)	0 ~ 255	N/A
Upper 1/16 (S7)	0 ~ 255	N/A
Lower 1/16 (S8)	0 ~ 255	N/A
Left 1/16 (S9)	0 ~ 255	N/A
Right 1/16 (Sa)	0 ~ 255	N/A
Clock Adj. (Sb)	0 ~ 255	128

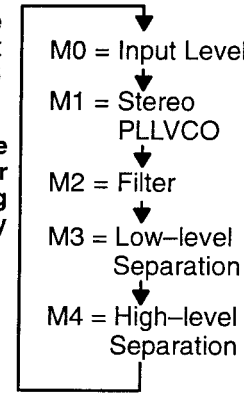
Press the **Power** button on the Remote Control to select the Serviceman MTS Adjustment Mode.

For MTS Adjustments:

a.) **Press Channel Up/Down** on the Remote Control to select one of the 5 available MTS Adjustments.

Important Note: Write down the original value set (b in detail) for each address before modifying anything. It is easy to erroneously adjust the wrong item.

b.) **Press Volume Up/Down** on the Remote Control to adjust the level of the selected Service Adjustment.



Adjustment Range and Default level values for Service Adj.

MTS Adjustment	Adj Range	Default Level
Input Level (M0)	0 ~ 63	31
Stereo PLLVCO (M1)	0 ~ 63	31
Filter (M2)	0 ~ 63	31
Low–level Sep. (M3)	0 ~ 63	31
High–level Sep.(M4)	0 ~ 63	31

IMPORTANT NOTE:
Always Exit the Serviceman Mode following Adjustments.

Exiting the Serviceman Mode:

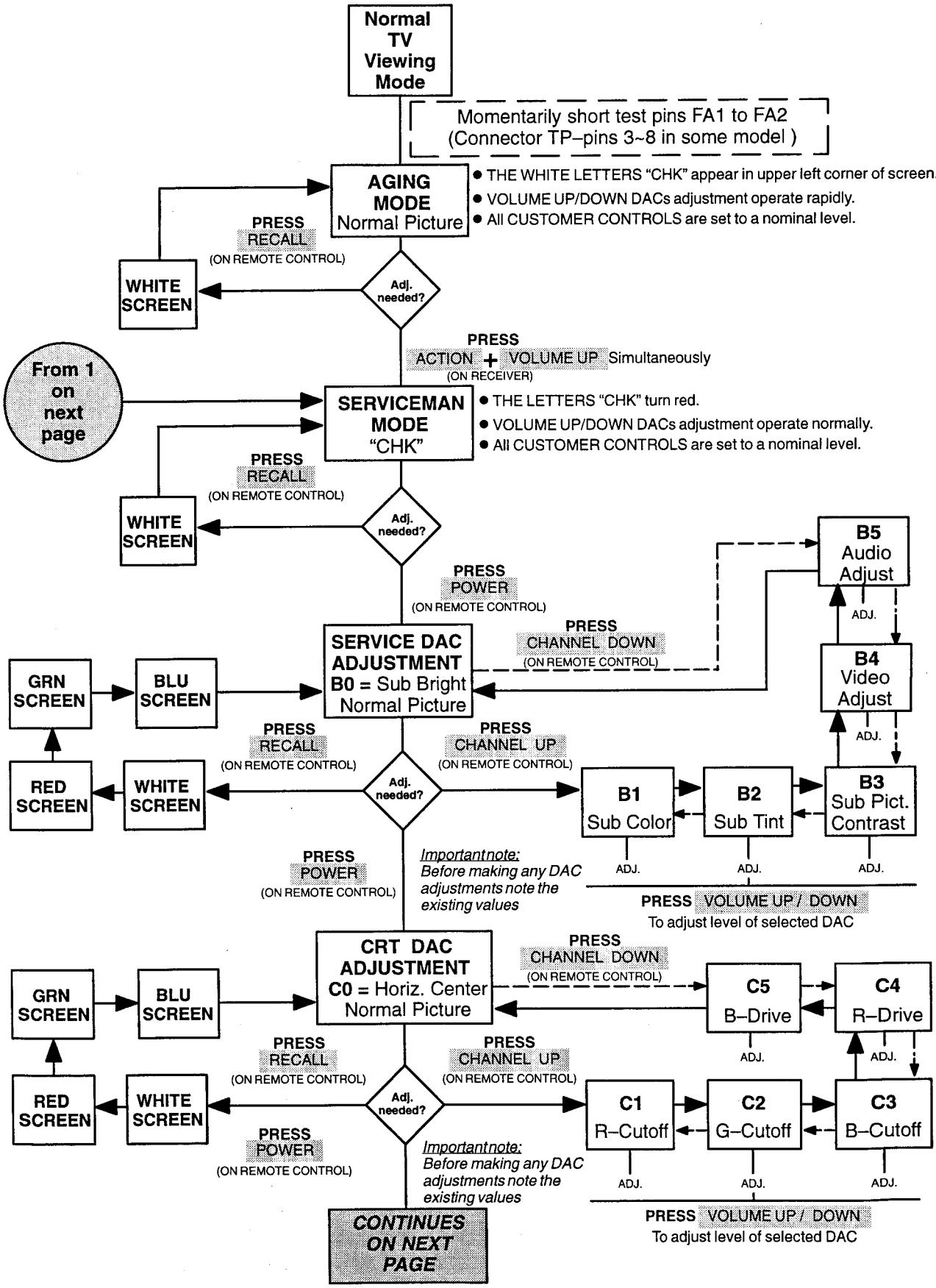
1. Press the **Action** and the **Power** buttons on the Receiver simultaneously for approximately 2 seconds.
   "The Receiver exits Serviceman Mode".

The Receiver momentarily shuts off; then comes back on tuned to channel 3 with a preset level of sound.

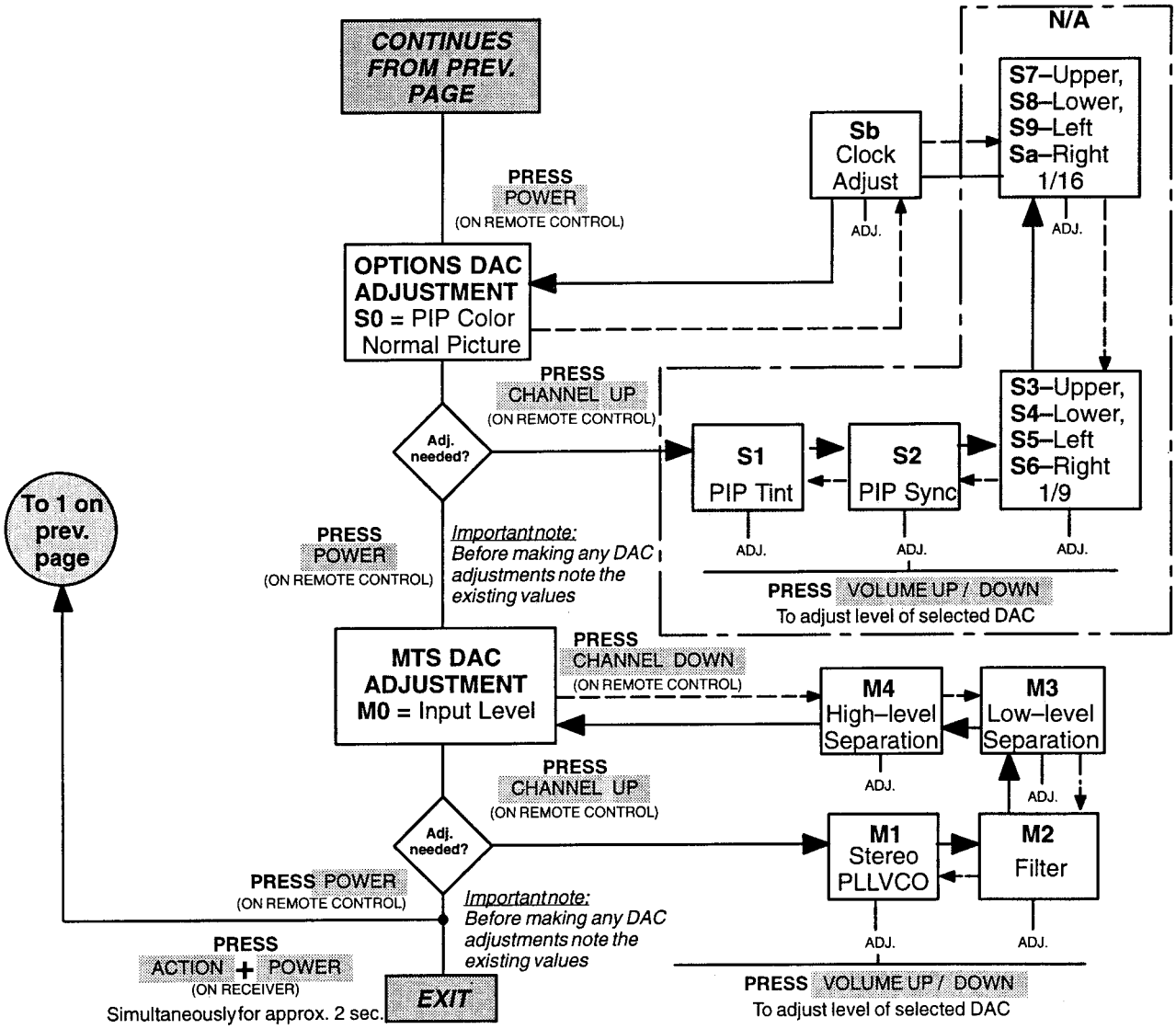
SERVICE

Instructional Flow Chart for Serviceman Mode

Caution: Always EXIT Serviceman Mode



Instructional Flow Chart for Serviceman Mode – Continued



Note: Receiver shuts off; then turns on, TUNED TO CHANNEL 3 WITH A PRESET LEVEL OF SOUND. This will also erase any Programmed Channels, Channels Caption data and some other user defined settings.

SERVICE

Service Adjustments (Electronic Controls)

Sub–Brightness

Serviceman DAC Adjustment (B0)

Adjustment of this control is important for setting proper operation of customer brightness and picture controls. This adjustment must be made after Sub–Contrast or Color Temperature adjustments are made. **Do not adjust** SCREEN after the Sub–Brightness is set.

Preparation:

Apply a color bar signal with 100 IRE white and 7.5 IRE black. (Switch Color to "OFF" on the signal generator.) Operate the Receiver for a minimum of 10 minutes prior to performing this adjustment.

Procedure:

In the Serviceman Mode for making electronic adjustments, select the DAC adjustment (B0) and adjust until the black bar starts to look grey. Then decrease the level to the point where grey turns to black.

Video Adjustment Level

Serviceman DAC Adjustment (B4)

Preparation:

1. Obtain an NTSC color bar pattern with 100 IRE white and 87.5% modulation.
2. Connect the oscilloscope to TP12. Use cold ground for scope connection. Set the scope at Horizontal Sweep rate (20µs) time base.

Procedure:

1. In the Serviceman Mode for making electronic adjustments, select DAC Video Adjustment Level (B4) and adjust for 1V from sync tip to white level. See detail.

2. Set the DAC Sub–Contrast Adjustment (B3).

Sub–Contrast

Serviceman DAC Adjustment (B3)

This adjustment is factory set. **Do not adjust** unless repairs are made to associated circuit, the CRT Board or when the CRT is replaced.

Preparation:

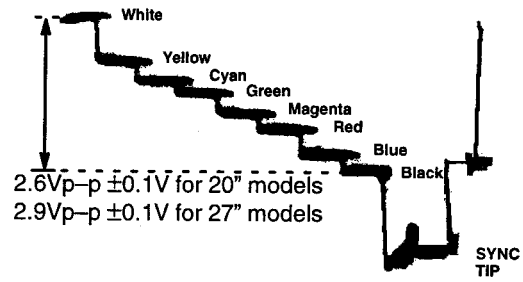
1. Apply a color bar signal pattern with 87.5% modulation, 70% saturated color bar with a 100 IRE white and 7.5 black.

NOTE: The pattern used in this procedure is an EIA color bar pattern with 87.5% modulation with 100 IRE white and 7.5 black. Correlate the information in this procedure to the pattern used if another signal is used.

2. Connect the oscilloscope to the CRT–Board connector C1–2 (TP35). Set the scope time base to 20µs (horizontal).
3. Connect a jumper from TPD2 to ground (⏚).

Procedure:

1. In the Serviceman Mode for electronic adjustments, select DAC Sub–Contrast Adjustment (B3) and adjust for 2.6Vp–p/2.9Vp–p ±0.1V (20"/27" models respectively) from white level to black level on video waveform (see video waveforms detail).



2. Remove the jumper (Preparation steps 3).

Tint/Color Adjustment

Serviceman DAC Adjustment (B2) (B1)

Preparation:

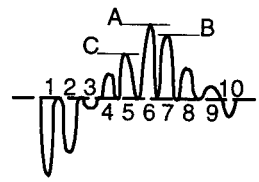
1. Apply a rainbow color bar signal.
2. Connect the oscilloscope to TP47B (A–Board) or to connector C1 pin 3.
3. Connect a jumper from TPD2 to GND (⏚).

Procedure:

1. In the Serviceman Mode for making electronic adjustments, select DAC Sub–Tint Adjustment (B2). adjust until the waveform measured is as the one shown in the detailed waveform below .

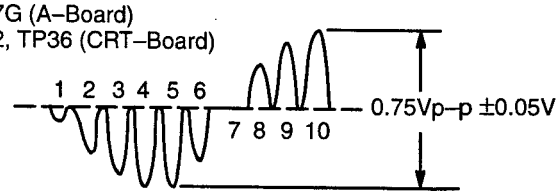
TP47B or C1–3
(A–Board)

A to B = 1 unit
B to C = 2 units



2. Connect the oscilloscope to TP47G (A–Board) or to connector C1 pin 2, TP35 (CRT–Board).
3. Select DAC Sub–Color Adjustment (B1) and adjust for peak to peak amplitude to be 0.75V p–p ±0.05V.

TP47G (A–Board)
C1–2, TP36 (CRT–Board)



4. Remove the jumper (Preparation step 3).

SERVICE

Color Temperature Adjustment (B/W Tracking)

Serviceman DAC Adjust. (C1) (C2) (C3) (C4) (C5)

Minor Touch–Up Method

OBSERVE low and high brightness areas of a B/W picture for proper tracking. Adjust only as required for "good grey scale and warm highlights".

- LOW LIGHT areas – In Serviceman Mode for making electronic adjustments, select Cutoff (C1) RED, (C2) GRN, (C3) BLU and adjust the picture for grey.
- HIGH LIGHT areas – In Serviceman Mode for making electronic adjustments, select Drive (C4) RED, (C5) BLU and adjust the picture for warm whites.

Complete Adjustment

Preparation:

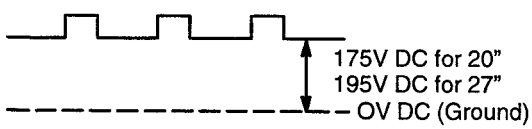
1. Turn the Receiver "ON" and allow 10 minutes warm up at high brightness.
2. Apply a color bar signal with color "OFF".
3. Turn the SCREEN control (part of FBT T551) fully counterclockwise.

Procedure:

Preset Serviceman DACs C1, C2 and C3 levels to 128 for best results.

1. Connect the oscilloscope to TP35 (CRT–Board).
2. In Serviceman Mode for making electronic adjustment, select the Sub–Bright DAC(B0).
3. Connect a jumper from TPS8 to FA2, (connector TP pin 6 to pin 3).
4. Observe the oscilloscope waveform at Horizontal rate and adjust the Serviceman Mode Sub–Bright DAC (B0) level until a scanning period of 2.4V above DC ground is measured, as indicated in the detail.

5. Remove the jumper. (Step 3)
6. Connect the scope to GRN Cathode (KG) on the CRT–Board.
7. In the Serviceman Mode for making electronic adjustments, select the GREEN CUTOFF DAC (C2).
8. Connect a jumper from TPS8 to FA2, (connector TP pin 6 to pin 3).
9. View scope trace at Horizontal rate and adjust the Serviceman Mode DAC (C2) level until a scanning period of 175V/195V (20"/27" models respectively) above DC ground is measured, as indicated in the detail.



Adjustment Waveform Detail (Steps 9, 14 & 19)

10. Remove the jumper. (Step 8)
11. Connect the scope to the RED Cathode (KR).
12. In Serviceman Mode for making electronic adjustments, select the RED CUTOFF DAC (C1).
13. Connect a jumper from TPS8 to FA2, (connector TP pin 6 to pin 3).
14. View the scope trace and adjust the Serviceman Mode DAC (C1) for the scanning period to be 175V / 195V above DC ground. (See detail in step 9)
15. Remove the jumper. (Step 13)
16. Connect the scope to the BLU Cathode (KB).
17. In Serviceman Mode for making electronic adjustments, select the BLU CUTOFF (C3).
18. Connect a jumper from TPS8 to FA2, (connector TP pin 6 to pin 3).
19. View the scope trace and adjust the Serviceman Mode DAC (C3) for the scanning period to be 175V / 195V above DC ground. (See detail in step 9)
20. Turn the Screen Control (part of FBT) slowly clockwise until a color horizontal line appears.
21. With the other two colors Serviceman Mode DAC CUTOFF adjustments (C1) RED, (C2) GRN, (C3) BLU; increase the colors to create a white horizontal line.
22. Remove the jumper. (Step 18)
23. Confirm that a good gray scale is established by viewing B/W color bar pattern.
24 In the Serviceman Mode for making electronic adjustments select the DAC DRIVE adjustments (C4) RED, (C5) BLU and adjust for warm white in a white color bar pattern.
25. EXIT the Serviceman Mode.
26. Adjust the Picture Menu Video Adjustments **Bright** and **Picture** from low scale to high scale and check Black and White tracking.
27. If correction is needed: Re–Enter the Serviceman Mode and perform the **Minor Touch – Up Method.**
28. Perform **Sub–Brightness** Adjustment procedure.

Horizontal Centering

Serviceman DAC Adjustment (C0)

Preparation:

Connect a crosshatch generator.

Procedure:

1. In the Serviceman Mode for making electronic adjustments. Select the Horizontal Centering Adjustment DAC (C0) and adjust until the center of the crosshatch pattern is centered on CRT.
2. EXIT the Serviceman Adjustment Mode.

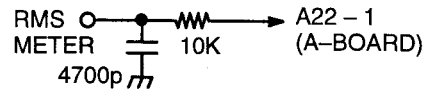
Audio Adjustment

Serviceman DAC Adjustment (B5)

This adjustment is factory set and needs to be performed only when IC002 or IC101 is replaced.

Preparation:

1. Apply the following signal at the antenna (70dB ±5dB, 75Ω open P/S 10dB): audio signal set to monaural, 300Hz. 100% modulation; video input of 100IRE flat field, 30% modulation.
2. Connect the RMS Meter with filter jig as shown in detail.



Procedure:

1. In the Serviceman Mode for making electronic adjustments, select the Audio Adjustment DAC (B5) and adjust until the RMS meter reading are:
   150mV rms ±5mV rms. (Stereo Models)
   250mV rms±15mV rms (Mono Models)
2. EXIT the Serviceman Adjustment Mode.

SERVICE

Clock Adjustment (Sb)

Preparation:

Connect the frequency counter from TPS1 (IC001 Pin 13) to cold ground (⏚).

NOTE: Frequency Counter probe capacitance should be 8pF or less.

Procedure:

1. Turn the Receiver "OFF" with the AC power applied.
2. Measure TPS1 (IC001 pin 13) for the frequency of the waveform and record the reading.

   Note: Pin 13 measurement must have at least four digits of resolution following the decimal point Example: 000.0000
3. Turn the Receiver back "ON".
4. Place the Receiver into Serviceman Mode for making electronic adjustment, select the Clock Adjustment DAC (Sb).
5. Calculate and set Sb based on the following formula:

$$Sb = 128 + 0.901 \times 10^6 \times \frac{\{244.1406 - \text{pin 13 [Hz]}\}}{244.1406}$$

NOTE: Pin 13 measurement will not change regardless of the value stored in Sb.

SERVICE

Service Adjustments (Mechanical Controls)

RF AGC Delay R106

Adjust only if overloading on strong signal or if busy background (snow) is present on moderate strength signals.

1. Adjust the RF AGC control, R106, until snow appears, then adjust the control until snow is eliminated.
2. Check all channels for optimum setting.

AFC Field Adjustment L151

1. Select TV signal mode from the Menu.
2. Defeat AFC by applying a jumper from TPS7 (R063) to ground (⏚).
3. Connect a DVM to the AFC test point, TP16.
4. Use the Remote Control to check all the active High Band channels 7~13 for AFC voltage range. Select a channel where the AFC voltage measured is in approximate center of the voltage range.
5. Adjust L151 for 4.6V ±0.1V at TP16.
6. Check all the active channels for proper AFC correction. Touch up L151 if required. Remove the jumper installed in step 2.

NOTE: Do not use the TV/CABLE channel with offset carriers for adjustment or in determination of the low and high range of the AFC voltage.

Audio Alignment L201

1. Select an active TV channel.
2. Attenuate the signal (loosely couple antenna lead or use RF attenuator pad) for noisy sound.
   - Adjust L201 for maximum sound. Signal to noise ratio is best when L201 is peaked.
3. Connect an antenna or remove the RF attenuator for strong signal.

Vertical Size R453

1. Turn the VERTICAL SIZE control, R453, CCW until the top and the bottom edges of the raster are visible.
2. Adjust the VERTICAL SIZE control CW until the top and the bottom of the raster touch the bezel edge. Advance SIZE control CW an additional 30 degrees. This will be approximately 10% overscan. Linearity adjustment is done automatically when the size is being adjusted. (Best results can be obtained with a round test pattern.)

Focus (Part of T551)

Preparation:

Connect a Signal generator and select a dot pattern.

Procedure:

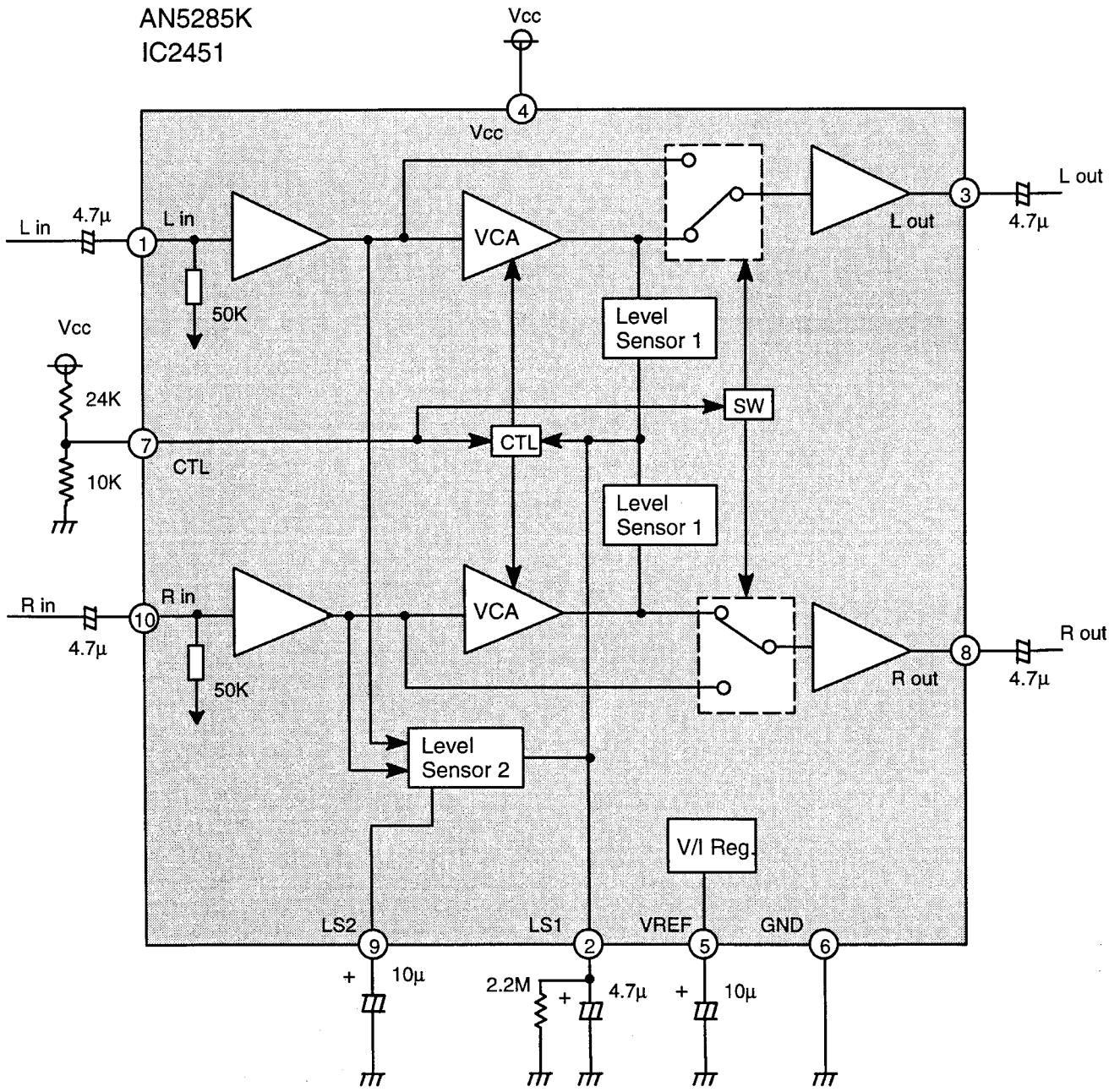
Adjust the FOCUS control to obtain the sharpest and clearest dot pattern.
(a) adjust for best center.
(b) adjust for best area between the center and top right corner.

SERVICE

AIS (Artificial Intelligence Sound)

This receiver uses Artificial Intelligence (AI) Sound to modulate abrupt changes in the sound volume level. It is primarily designed to prevent sudden loud changes in sound volume, such as those which occur when a television program is interrupted by a commercial. It also equalizes the maximum volume level when switching between different channels or when switching between broadcast and other A/V sources.

The AIS circuit is incorporated into the system through the use of an Automatic Gain Circuit, IC2451, which is located on the A–Board. AIS activation is MPU controlled through the IC's switch terminal at pin 7. Right and left channel sound enters the circuit at pins 1 and 10 respectively, where they are sampled, then either amplified or dampened according to preset levels. The "streamlined" sound is then fed through pins 3 and 8 (left and right channels respectively).

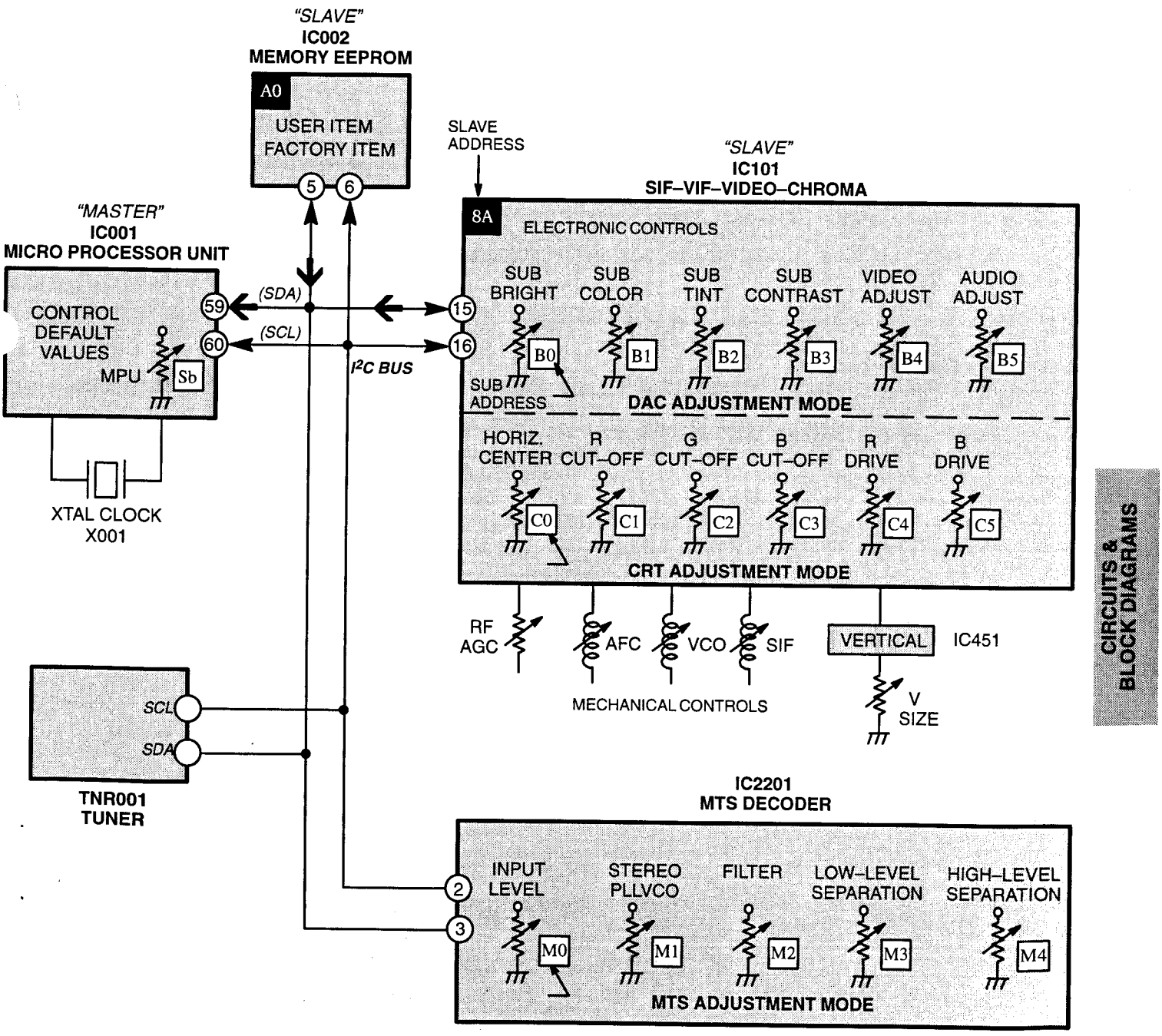


I²C Bus Line System

This Receiver makes use of one of the latest electronic technologies by using an I²C (Inter–Integrated Circuit) Bus Line Concept. Two wires, SDA (Serial Data) and SCL (Serial Clock) carry information between devices connected to the Bus. Each device connected to the Bus has a unique address for receiving data information (a Receiver) from a source (the Transmitter).

The devices are also considered to be a "Master" or a "Slave" when data is transmitted or received. In this Receiver, the "Master" (Micro Processor Unit, IC001) is the device which initiates a data transfer in the Bus line and generates the clock signal required to permit the data to be sent. The "Slaves" (MEMORY I²C EEPROM, IC002 and VIF–SIF–VIDEO–CHROMA JUNGLE, IC101) are the devices addressed by the MPU and receive the data transmitted.

This system usually performs as a control function and replaces many of the required mechanical controls needed in a television receiver. Instead of adjusting various mechanical controls individually, many of the control functions can be performed electronically using "On Screen Menus" (the Serviceman Mode).



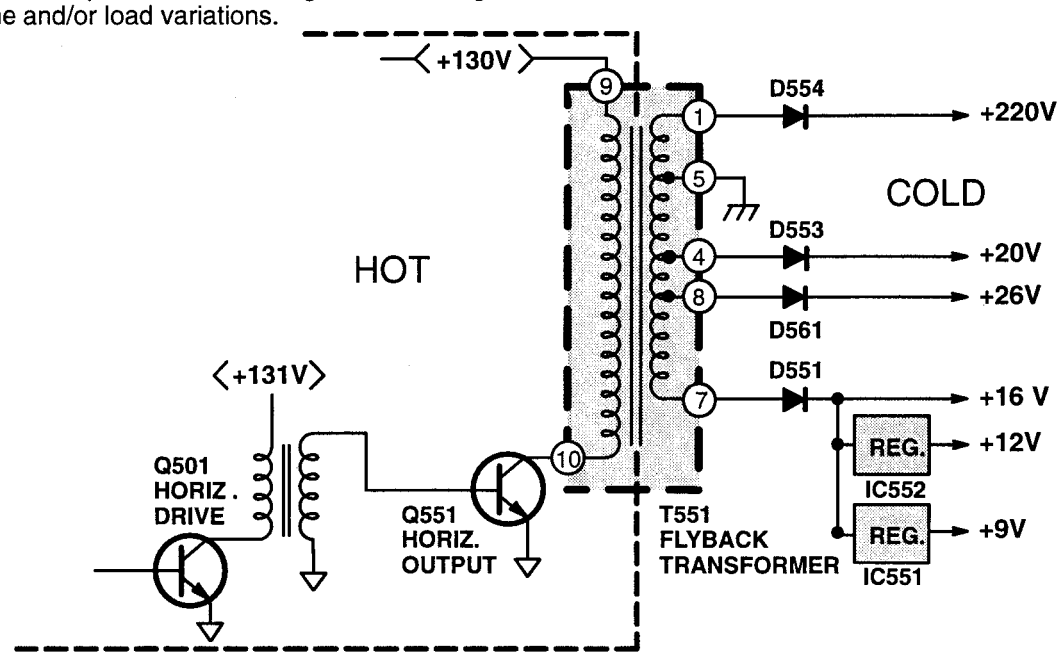
AVR Power Supply

B+ Source Voltages

The NA5B chassis B+ source voltages are derived from secondary windings on the Flyback Transformer (T551).

B+ for the Horizontal Drive, Horizontal Output (Q501/Q551) and Flyback Transformer (T551) is supplied by an AVR (Automatic Voltage Regulator) 130 volt output. Since the secondary B+ voltages are dependant on scan waveform or flyback pulse amplitude, these voltages are also regulated for AC line and/or load variations.

The +20 volt, +16 volt and +26 volt supplies are derived by diode rectification of the scan waveform and are relatively high current supplies. The 16 volt B+ source is also couplec to a 12 volt and 9 volt regulator. IC552 supples +12 volt B+ to the Audio circuit while IC552 supplies +9V B+ to most of the Main Board circuitry. The +220 volt for CRT is developed from diode rectification of the flyback pulse.



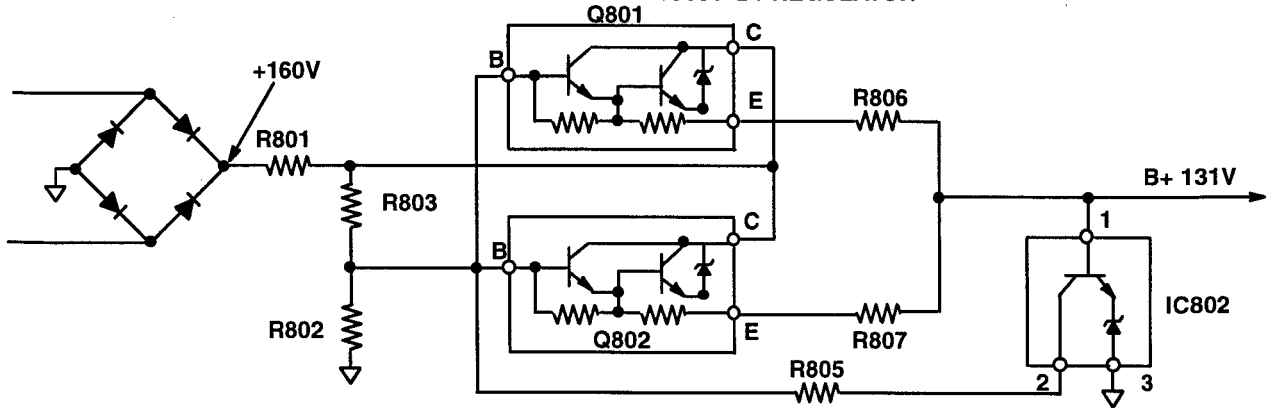
Automatic Voltage Regulation

The AVR circuit consists of Q801, Q802 and IC802. IC802 detects the variations of B+ 130V supply output from parallel AVR components Q801 and Q802. It then controls the base voltages of Q801 and Q802 to make the connection of the B+ supply.

Approximately 160V from the full wave bridge rectifier is applied to the collectors of Q801 & Q802. This same source voltage is also applied to their bases. The base voltage is such that it causes emitter current to flow and generates the B+ supply of +130V.

If for some reason, B+ 130V supply increases, IC802 senses the change and increases its conduction. Its output falls back to a lower voltage to Q801 and Q802 bases. This in turn will decrease their conduction and reduce the B+ output voltage.

IC801 B+ REGULATOR



Follow the chart below to observe AVR voltage regulation ↗ = voltage increase, ↘ = voltage decrease.

Output Voltage Before Correction	IC801 Base	IC801 Collector	Q801 & Q802 Base	Output Voltage After Correction
HIGH	↗	↘	↘	+131V
Normal +131V				+131V
LOW	↘	↗	↗	+131V

Horizontal Hold Down Circuit

This circuit protects against excessive high voltage and CRT beam current. If for any reason the high voltage and/or CRT beam current exceeds a predetermined level, the Hold Down Circuit operates to increase the horizontal frequency. If the level increases further, the Hold Down Circuit will blank the CRT.

The CRT heater voltage from pin 6 of the flyback transformer (FBT) T551 is rectified by diode D531. This voltage is directly proportional to the high voltage variations. The voltage is filtered and divided by the precision resistors R532/R533 to approximately 2.4V and applied to Pin 49 (Hold Down) of IC101. With this voltage as the normal condition, the Hold Down Circuit is inactive and has no effect on the horizontal frequency or blanking the CRT.

The Hold Down Circuit inside IC101 is a (NPN) differential amp. One base of the differential amp is connected to Pin 49 (approximately 2.4V). The other base is connected to Pin 51 through an internal voltage divided of equal resistance. Pin 51 is clamped at a 6V DC reference voltage by the zener diode, D532. The voltage at the base of the differential amp is 3V. (1/2 of the reference voltage, 6V)

Basically, the Hold Down Circuit compares the voltage at Pin 49 (approximately 2.4V) to half of Pin 51 (clamped 6V). If the CRT heater pulse amplitude from T551 (representative of high voltage) increases, the positive voltage at the cathode of D531 and at Pin 49 of IC101 also increases.

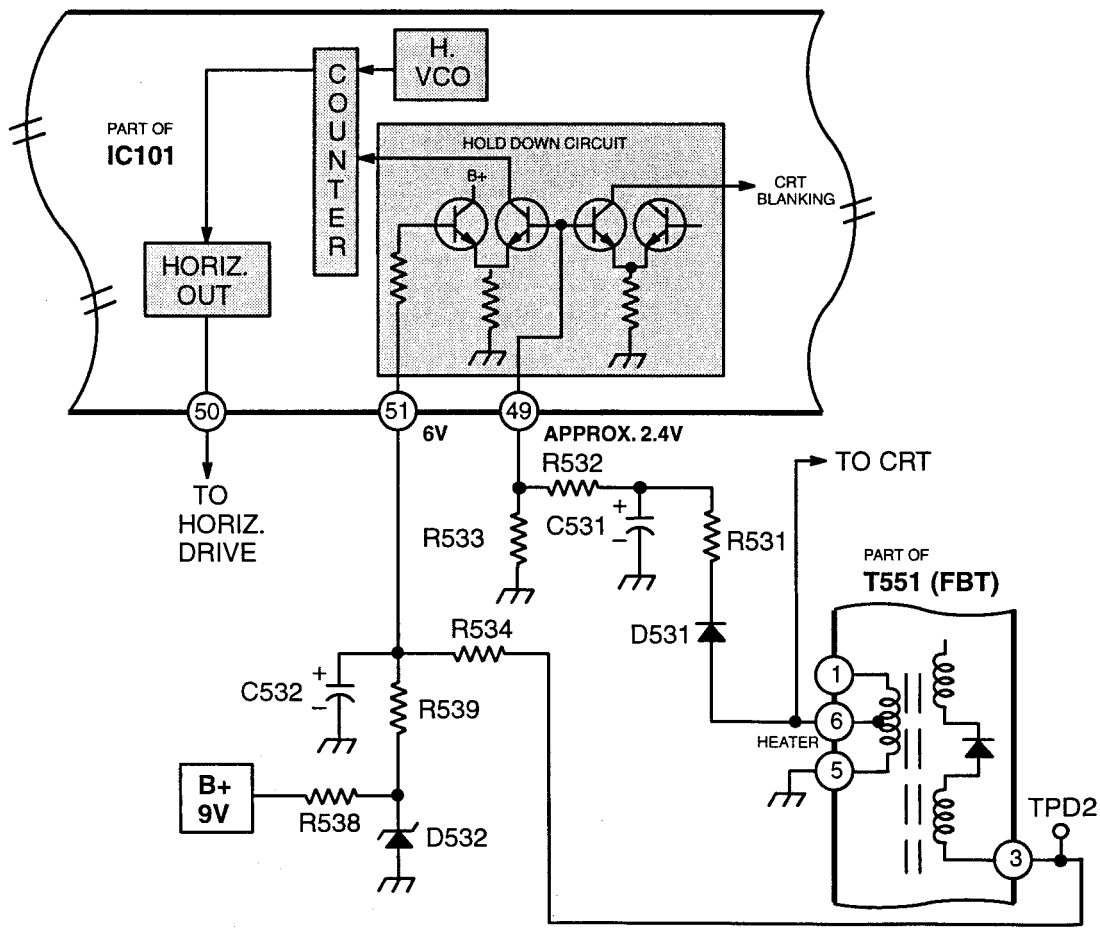
When the increased DC voltage at Pin 49 exceeds half of Pin 51 reference voltage by a predetermined amount, the Hold Down Circuit (differential amp.) changes conduction state and shifts the horizontal count down for a higher sweep frequency (out of sync condition) to prevent unsafe operation. For further safety, when Pin 49 voltage is extremely excessive, another internal differential amp changes state to blank the CRT.

An increase in the CRT beam current produces more negative ABL voltage at Pin 3 of T551 (FBT) which is coupled to Pin 51 of IC101 via resistor R534. This increased negative voltage opposes the positive voltage at Pin 51 and lowers the DC reference voltage to less than 6V. This in turn causes the Hold Down Circuit to operate sooner when Pin 49 voltage increases.

Thus, excessive levels of high voltage and/or increased CRT beam current cause determining of the horizontal oscillator frequency and eventual blanking of the CRT to assure operation within safe limits.

The B+ circuit and the Hold Down Circuit are not adjustable. If components in the designated areas of the schematic for critical parts are changed, operation of the Hold Down Circuit must be checked to insure that high voltage and CRT beam current does not exceed safe operation parameters. Check the following for possible failure:

1. Measure the DC voltage at Pin 49 of IC101 (reading should be close to +2.4V). If not, check D531, R531, C531, R532, R533 and IC101.
2. Measure the DC voltage at Pin 51 of IC101. (reading should be +6V) if not, check R534, C532, R539, D532, R538 and IC101.



CRT Protection Circuit

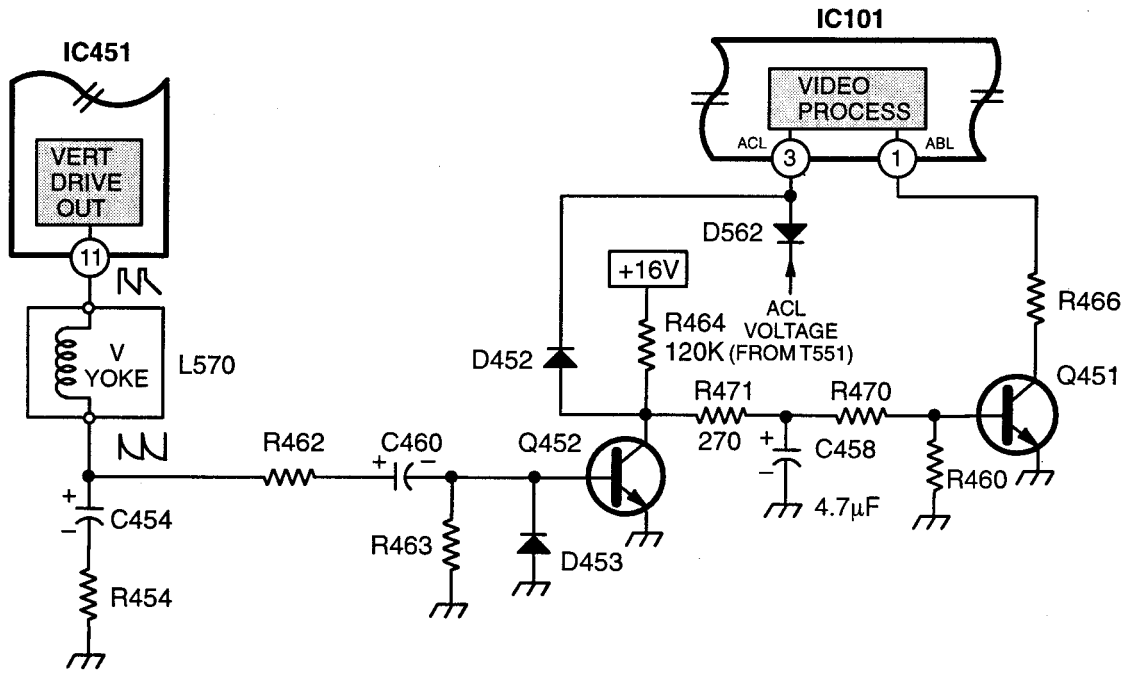
The CRT Protection Circuit is made up of transistors Q452 and Q451. The circuit blanks the CRT in the event of vertical sweep loss.

During normal operation, Q452 monitors vertical sweep by being connected to the low side of the vertical yoke L570. When Q452 is off, C458 starts to charge from the 16V source through resistors R464 and R471. The RC time constant is such that the charging is slow. When Q452 is conducting, C458 discharges through R471 and the transistor to ground. The RC time constant is such that the discharge is fast. The slow charging and fast discharging along with voltage divider R470/R460 prevents sufficient bias for transistor Q451 to conduct. With Q451 not conducting, Pin 1 of IC101 is high and the ABL functions normally.

If yoke current ceases (due to an open yoke or no voltage at IC451 Pin 11), there is no base bias for transistor Q452. The transistor is now non conductive. Capacitor C458 is now allowed to charge a longer time to supply enough bias through the voltage divider R470/R460 for Q451 to conduct. When it does, the voltage at Pin 1 of IC101 goes low and cuts off the CRT beam current.

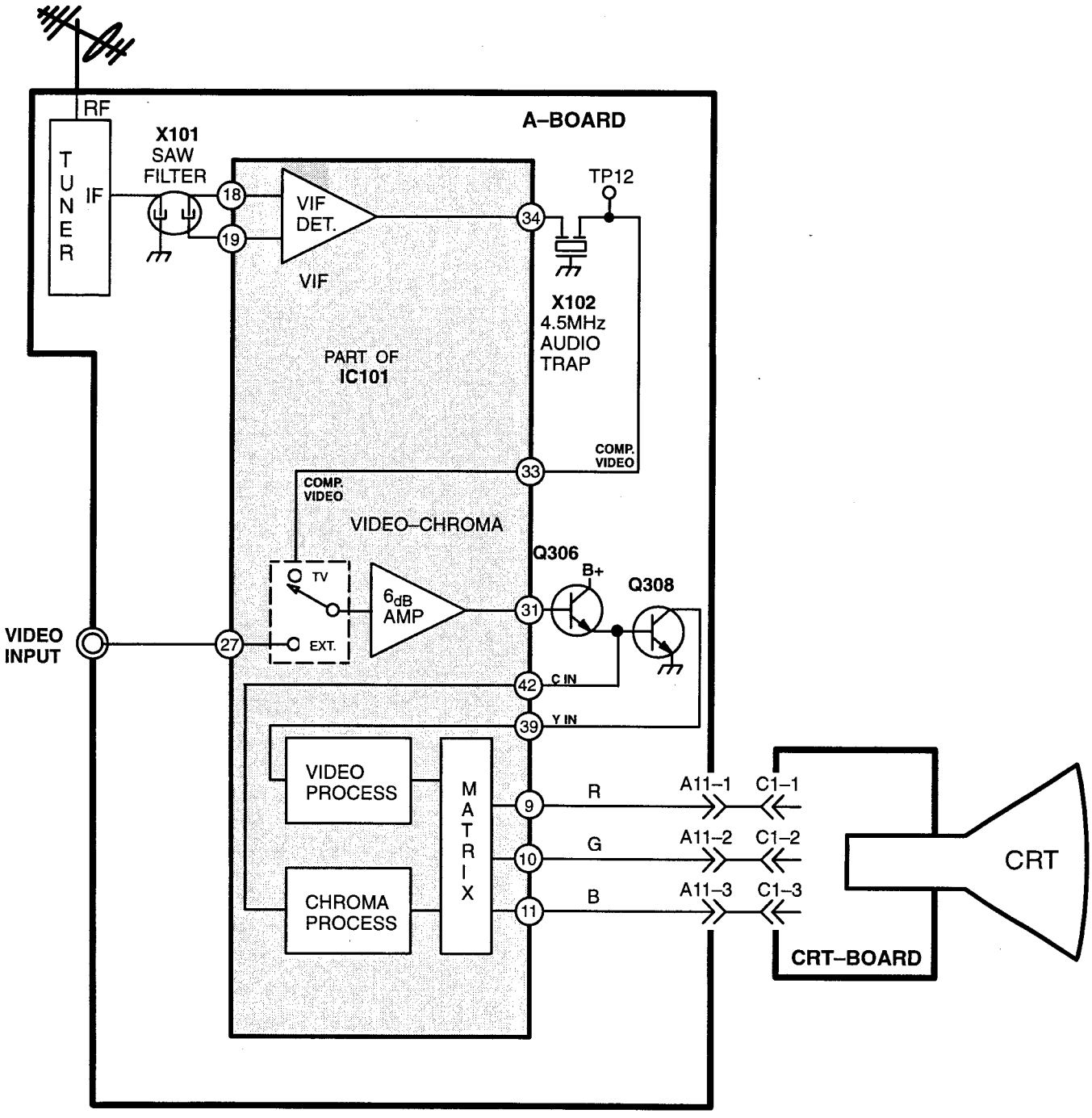
Diode D452 is added to the collector of Q452 to prevent the circuit from operation when Pin 3 of IC101 is grounded for the Service Switch function when setting the CRT cutoff.

It is important for the CRT life that this circuit be checked before returning a repaired Receiver to a customer. A quick test is to short Q452 base to ground. The CRT should blank. If not, troubleshoot the circuit for cause.

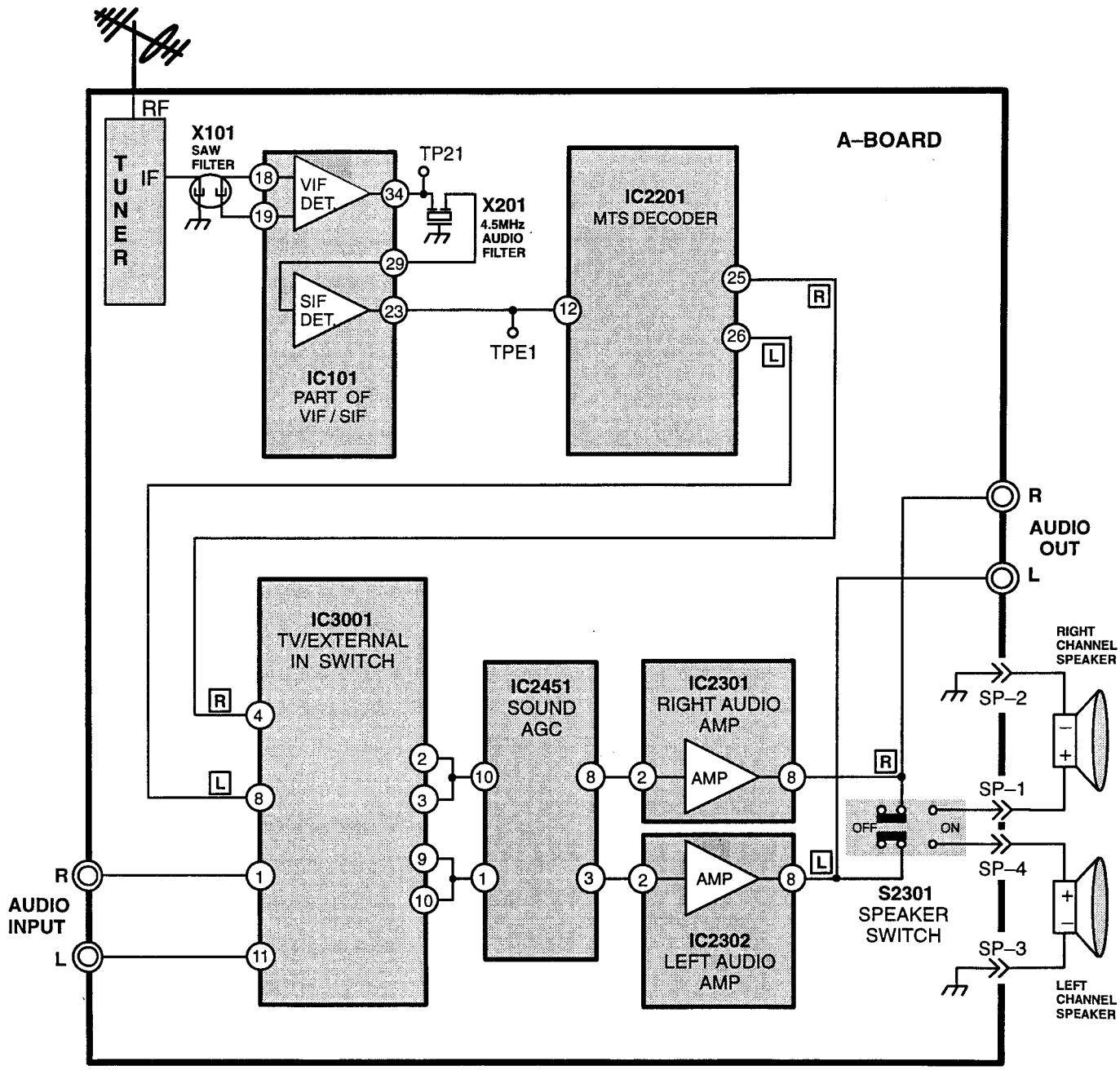


Notes

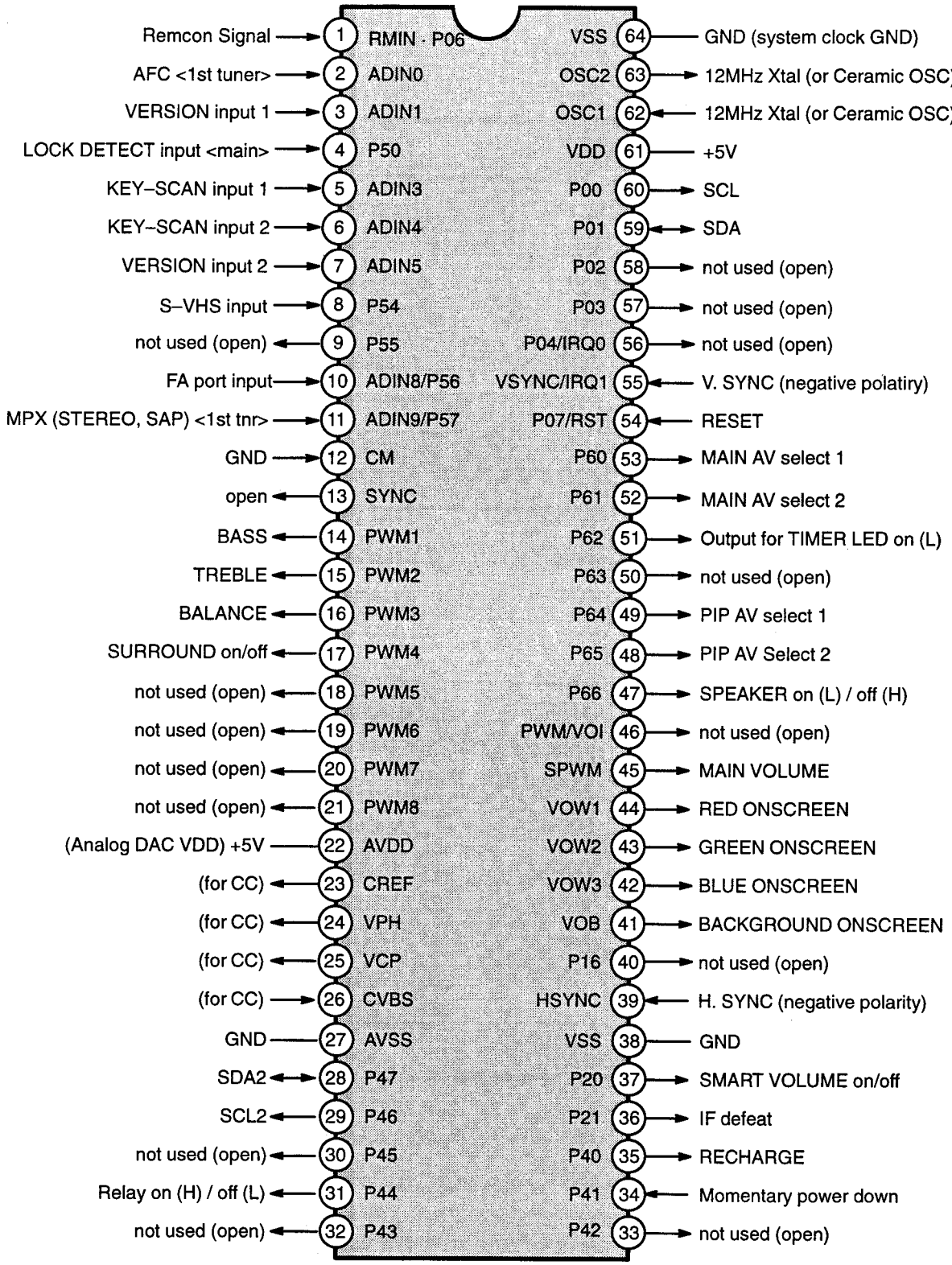
Video–Chroma Signal Path Block Diagram



Audio Signal Path Block Diagram

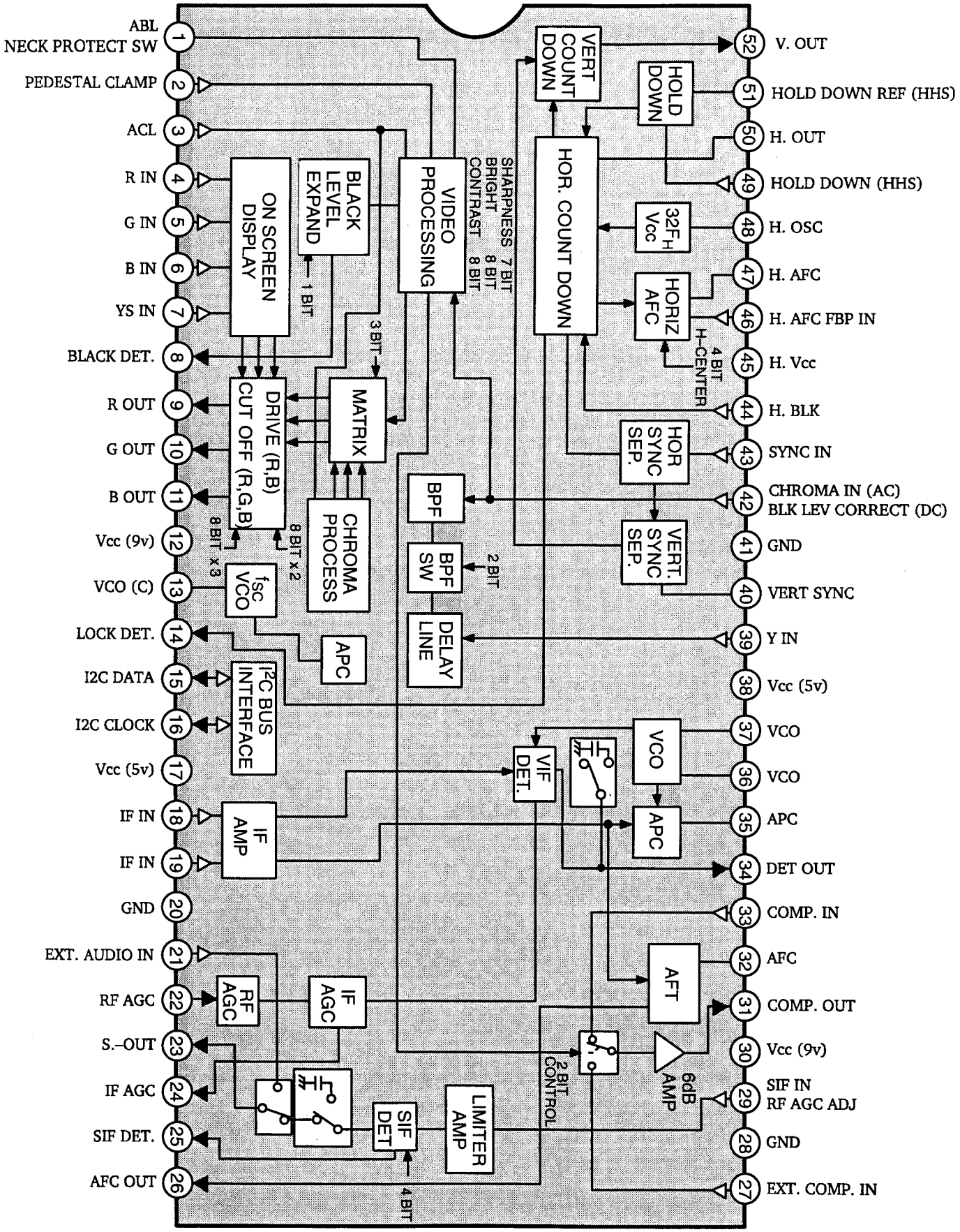


IC001 MPU IN/OUT Pins and Functions
MN1873265T6F

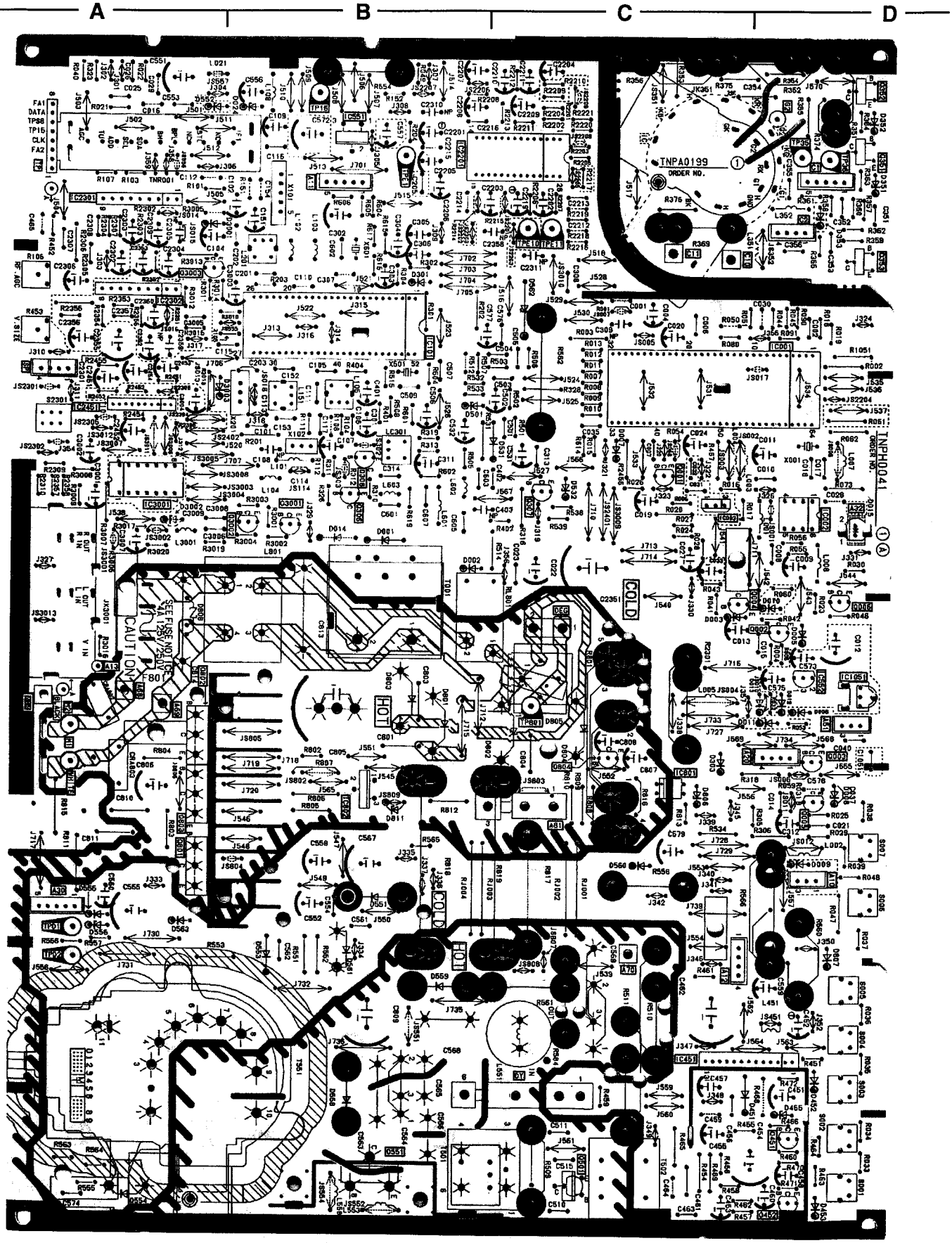

Remcon Signal 1 RMIN · P06
AFC <1st tuner> 2 ADIN0
VERSION input 1 3 ADIN1
LOCK DETECT input <main> 4 P50
KEY–SCAN input 1 5 ADIN3
KEY–SCAN input 2 6 ADIN4
VERSION input 2 7 ADIN5
S–VHS input 8 P54
not used (open) 9 P55
FA port input 10 ADIN8/P56
MPX (STEREO, SAP) <1st tnr> 11 ADIN9/P57
GND 12 CM
open 13 SYNC
BASS 14 PWM1
TREBLE 15 PWM2
BALANCE 16 PWM3
SURROUND on/off 17 PWM4
not used (open) 18 PWM5
not used (open) 19 PWM6
not used (open) 20 PWM7
not used (open) 21 PWM8
(Analog DAC VDD) +5V 22 AVDD
(for CC) 23 CREF
(for CC) 24 VPH
(for CC) 25 VCP
(for CC) 26 CVBS
GND 27 AVSS
SDA2 28 P47
SCL2 29 P46
not used (open) 30 P45
Relay on (H) / off (L) 31 P44
not used (open) 32 P43
VSS 64 GND (system clock GND)
OSC2 63 12MHz Xtal (or Ceramic OSC)
OSC1 62 12MHz Xtal (or Ceramic OSC)
VDD 61 +5V
P00 60 SCL
P01 59 SDA
P02 58 not used (open)
P03 57 not used (open)
P04/IRQ0 56 not used (open)
VSYNC/IRQ1 55 V. SYNC (negative polatiry)
P07/RST 54 RESET
P60 53 MAIN AV select 1
P61 52 MAIN AV select 2
P62 51 Output for TIMER LED on (L)
P63 50 not used (open)
P64 49 PIP AV select 1
P65 48 PIP AV Select 2
P66 47 SPEAKER on (L) / off (H)
PWM/VOI 46 not used (open)
SPWM 45 MAIN VOLUME
VOW1 44 RED ONSCREEN
VOW2 43 GREEN ONSCREEN
VOW3 42 BLUE ONSCREEN
VOB 41 BACKGROUND ONSCREEN
P16 40 not used (open)
HSYNC 39 H. SYNC (negative polarity)
VSS 38 GND
P20 37 SMART VOLUME on/off
P21 36 IF defeat
P40 35 RECHARGE
P41 34 Momentary power down
P42 33 not used (open)

IC101 Block Diagram

INPUT PINS = ▽ △ OUTPUT PINS = ▲ ▼



A and C–Board Layouts



Integrated Circuits and Transistors Voltage Level

IC001

01 .. 5.13	35 .. 5.14		
02 .. 2.24	37 .. 5.13		
03 .. 5.14	38 .. 0.00		
04 .. 3.86	39 .. 4.77		
05 .. 5.14	41 .. 0.01		
06 .. 2.50	42 .. 0.01		
07 .. 0.01	43 .. 0.01		
08 .. 0.00	44 .. 0.01		
10 .. 5.14	45 .. 4.13		
11 .. 1.66	46 .. 0.01		
12 .. 0.00	53 .. 0.06		
13 .. 2.58	54 .. 5.14		
22 .. 5.15	55 .. 4.24		
23 .. 0.08	59 .. 4.38		
25 .. 1.30	60 .. 4.40		
26 .. 2.05	61 .. 5.15		
27 .. 0.01	62 .. 2.52		
31 .. 5.09	63 .. 2.31		
34 .. 5.08	64 .. 0.00		

IC101

01 .. 2.40	14 .. 6.01	27 .. 2.69	40 .. 2.74
02 .. 1.70	15 .. 0.07	28 .. 0.01	41 .. 0.00
03 .. 3.41	16 .. 0.06	29 .. 3.04	42 .. 5.82
04 .. 0.01	17 .. 5.14	30 .. 8.97	43 .. 2.15
05 .. 0.01	18 .. 3.09	31 .. 5.12	44 .. 0.39
06 .. 0.01	19 .. 3.09	32 .. 3.01	45 .. 6.27
07 .. 0.01	20 .. 0.00	33 .. 2.73	46 .. 2.68
08 .. 5.83	21 .. 4.02	34 .. 2.82	47 .. 4.36
09 .. 2.88	22 .. 3.62	35 .. 1.77	48 .. 2.15
10 .. 0.01	23 .. 2.46	36 .. 3.15	49 .. 2.52
11 .. 2.72	24 .. 3.05	37 .. 3.15	50 .. 0.69
12 .. 8.97	25 .. 4.79	38 .. 5.14	51 .. 5.89
13 .. 2.56	26 .. 4.14	39 .. 3.95	52 .. 4.24

IC3001

01 .. 0.30
02 .. 6.04
03 .. 6.05
04 .. 6.05
05 .. 11.05
06 .. 11.04
07 .. 0.00
08 .. 6.04
09 .. 6.04
10 .. 6.04
11 .. 0.30
12 .. 0.01
13 .. 0.01
14 . 12.10

IC451

01 . 12.25
02 .. 4.24
03 .. 6.20
04 .. 0.00
05 .. 6.42
06 .. 5.63
07 . 25.5
08 .. 2.09
10 .. 0.00
11 . 14.86
12 . 26.10
13 .. 5.20

IC2451

01 .. 6.05
02 .. 1.68
03 .. 6.11
04 . 12.10
05 .. 6.06
06 .. 0.00
07 .. 5.11
08 .. 6.13
09 .. 1.88
10 .. 6.05

IC2201

01 .... 0.00	15 .... 3.94
02 .... 4.38	16 .... 4.51
03 .... 4.41	17 .... 4.60
04 .... 2.73	18 .... 4.65
05 .... 0.07	19 .... 0.67
06 .... 6.40	21 .... 0.00
07 .... 2.66	22 .... 4.55
08 .... 8.97	23 .... 0.65
10 .... 4.53	24 .... 4.58
11 .... 4.48	25 .... 4.64
12 .... 4.42	26 .... 4.32
13 .... 1.35	27 .... 5.70
14 .... 4.53	28 .... 6.75

IC002

01 .. 0.00
02 .. 0.00
03 .. 0.00
04 .. 0.00
05 .. 0.07
06 .. 0.06
07 .. 0.01
08 .. 5.10

IC2301

01 . 12.10
02 .. 5.45
03 .. 0.02
04 .. 9.90
05 .. 8.62
06 .. 8.85
07 .. 0.00
08 .. 8.90
09 . 19.83

IC2302

01 . 12.10
02 .. 5.44
03 .. 0.02
04 .. 9.91
05 .. 8.65
06 .. 8.89
07 .. 0.00
08 .. 8.90
09 . 19.84

IC551

01 . 16.22
02 .. 0.00
03 .. 8.97

IC552

01 . 16.25
02 . 12.11
03 .. 0.00

IC802 ▽

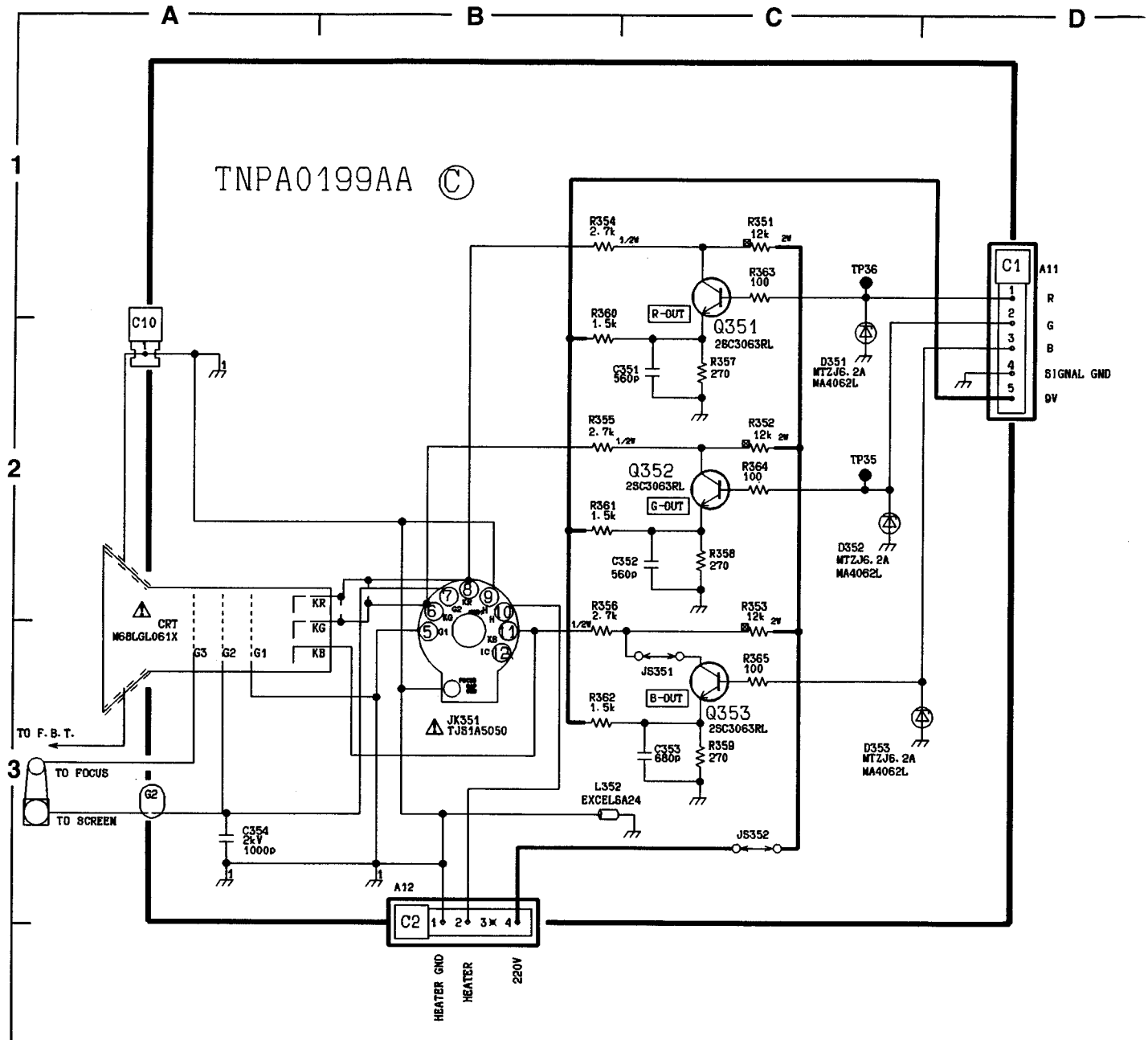
01 .. 129.7
02 .. 102.2
03 .... 0.00

	Q001	Q002	Q003	Q004	Q005	Q006	Q306	Q307	Q351
B	5.11	5.78	0.76	4.94	0.00	10.54	5.11	4.45	2.86
C	0.00	12.15	0.12	5.74	4.77	12.11	8.97	8.97	132.7
E	5.16	5.16	0.00	5.78	0.00	9.91	4.48	3.85	2.50

	Q352	Q353	Q451	Q452	Q501 ▽	Q551 ▽	Q803 ▽	Q3001	Q3002
B	2.62	2.70	0.07	0.21	0.00	0.00	130.7	0.00	0.61
C	142.2	138.2	2.41	0.16	103.1	126.9	145.7	11.05	0.00
E	2.28	2.34	0.00	0.00	0.00	0.00	129.6	0.00	0.00

C–Board Schematic

CT–27G11; CT–27S4C; CT–27G11C; CT–2757S; CT–2757SC; SP2718; SP2718C



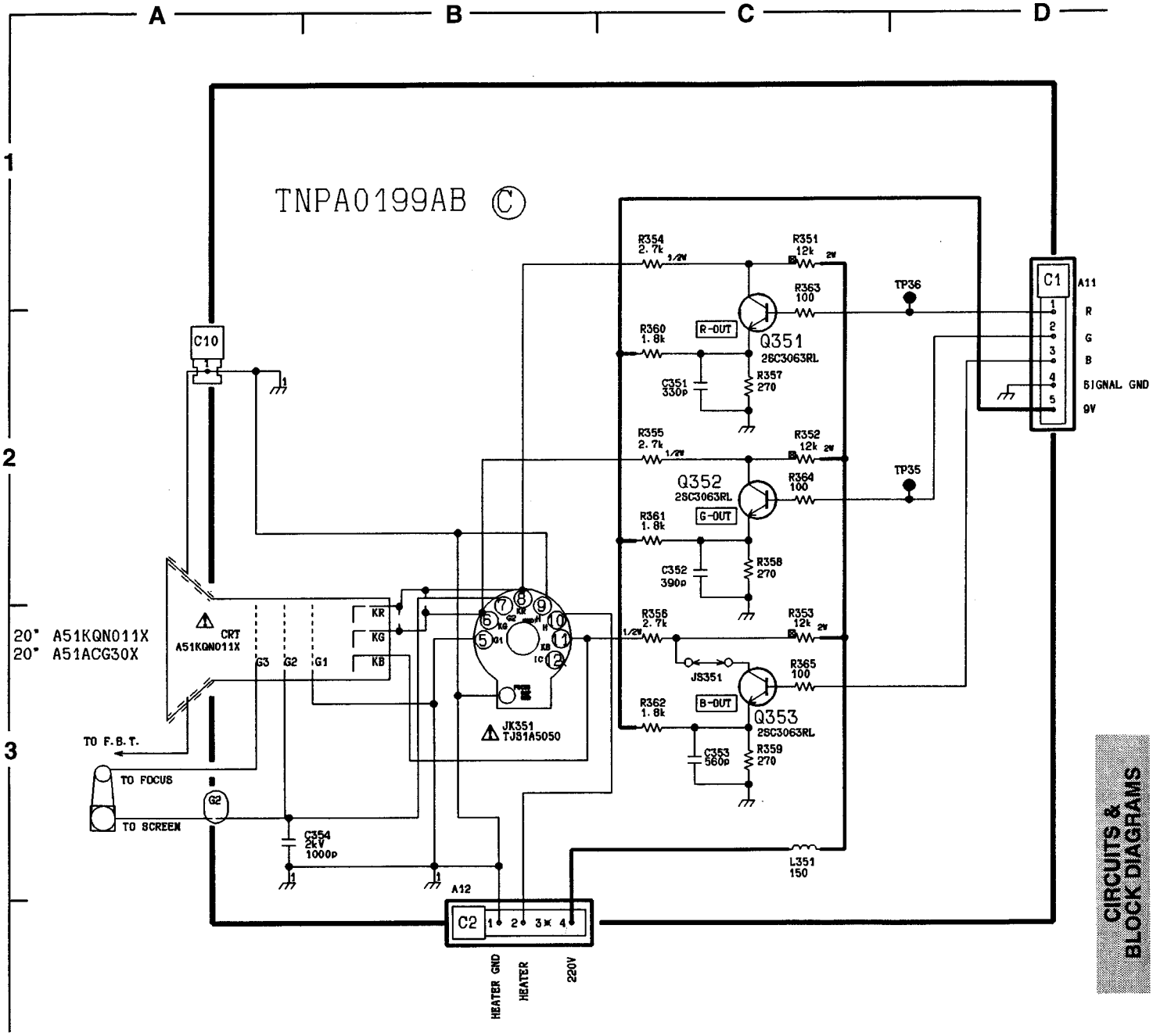
Voltage Chart – C–Board

Transistors

Ref.	b	c	e
Q351	2.86	132.7	2.50
Q352	2.62	142.2	2.28
Q353	2.70	138.2	2.34

C–Board Schematic

CT–20G31; CT–20G21; CT–20G21C; CT–20G11; CT–20G11C; CT–Z2151; CT–2042S; CT–2032S; SP2018; SP2018C; CT–20R13; CT–20S16; TP2008



REPLACEMENT PARTS LIST

(20" Models)

Important Safety Notice: Components printed in **BOLD TYPE** have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

REF. NO.	PART NO.	DESCRIPTION
		CAPRISTORS
CRA802	**EXNG131P365**	**RES-CAP 130PF/3.6 MEG**
CRA803	**EXNG131P365**	**RES-CAP 130PF/3.6 MEG**
		CAPACITORS
C002	TACCX103T50V	CAP,C .01UF/50V
C004	ECA1HM010GB	CAP,E 1.0UF/50V
C006	TACCW101T50V	CAP,C 100PF/50V
C007	TACCW101T50V	CAP,C 100PF/50V
C008	TACCX103T50V	CAP,C .01UF/50V
C010	TACCX103T50V	CAP,C .01UF/50V
C011	ECA0JM331GB	CAP,E 330UF/10V
C012	ECEA1AFS331	CAP,E 330UF-10V
C013	ECA1CM101GB	CAP,E 100UF/16V
C014	TACCQ101T50V	CAP,C 100PF/50V
C017	TACCQ330T50V	CAP,C 33PF/50V
C018	TACCQ330T50V	CAP,C 33PF/50V
C019	ECA1CM101GB	CAP,E 100UF/16V
C020	ECA1CM101GB	CAP,E 100UF/16V
C021	TACCQ121T50V	CAP,C 120PF/50V
C022	ECA1CM471GB	CAP,E 470UF/16V
C023	TACCX103T50V	CAP,C .01UF/50V
C024	ECA1EM4R7GB	CAP,E 4.7UF/25V
C025	TACCQ680T50V	CAP,C 68PF/50V
C026	TACCQ680T50V	CAP,C 68PF/50V
C027	ECA1HM3R3GB	CAP,E 3.3UF/50V
C040	TACCW103T50V	CAP,C .01UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
C040	TACCX103T50V	CAP,C .01UF/50V
		SP2018U SP2018CU
		TP2008U
C101	TACCX223T50V	CAP,C .022UF/50V
C102	ECA1HM100GB	CAP,E 10UF/50V
C104	ECA1HMR22GB	CAP,E .22UF/50V
C105	TACCQ270T50V	CAP,C 27PF/50V
C106	TACCW122T50V	CAP,C 1200PF/50V
C107	ECA1HMR47GB	CAP,E .47UF/50V
C108	ECEA1CN100U	CAP,E 10UF/16V
C109	ECA1HM100GB	CAP,E 10UF/50V
C110	TACCX103T50V	CAP,C .01UF/50V
C111	TACCR010T50V	CAP,C 10PF/50V
C114	TACCV330T50V	CAP,C 33PF/50V
C115	TACCX103T50V	CAP,C .01UF/50V
C117	TACCW121T50V	CAP,C 120PF/50V
C151	ECA1HMR22GB	CAP,E .22UF/50V
C152	TACCQ680T50V	CAP,C 68PF/50V
C153	TACCQ150T50V	CAP,C 15PF/50V
C201	ECCF1H680JP	CAP,C 68PF-J-50V
C202	TACCX103T50V	CAP,C .01UF/50V
C203	TACCX103T50V	CAP,C .01UF/50V
C205	ECQB1H183KF	CAP,P .018UF-K-50V
		CT-20R13U TP2008U
C301	ECA1HM100GB	CAP,E 10UF/50V
C302	ECA1AM331GB	CAP,E 330UF/10V
C303	ECA1EM4R7GB	CAP,E 4.7UF/25V
C304	ECA1EM4R7GB	CAP,E 4.7UF/25V
C305	ECA1HMR33GB	CAP,E .33UF/50V
C306	ECA1HM010GB	CAP,E 1.0UF/50V
C307	TACCX103T50V	CAP,C .01UF/50V
C308	ECQB1H223KF	CAP,P .022UF-K-50V
C309	ECEA1HN010S	CAP,E 1UF/50V
C311	ECA1HM4R7GB	CAP,E 4.7UF/50V
C312	ECA1CM220GB	CAP,E 22UF/16V
C313	ECCF1H390K	CAP,C 39PF-K-50V
C351	TACCW331T50V	CAP,C 330PF/50V
C352	TACCW391T50V	CAP,C 390PF/50V
C353	TACCW561T50V	CAP,C 560PF/50V
C354	ECKD3D102KB	CAP,C .001UF-K-2KV
C401	ECA1HMR33GB	CAP,E .33UF/50V
C402	TACCW681T50V	CAP,C 680PF/50V
C403	ECEA1HN010U	CAP,E 1UF/50V
C451	ECEA1CGE221	CAP,E 220UF/16V
C452	ECSF1EE105	CAP,T 1.0UF/25V
C453	ECEA1HFS2R2	CAP,E 2.2UF/50V
C454	ECEA1EGE102	CAP,E 1000UF/25V
C455	ECA1VM101GB	CAP,E 100UF/35V
C456	ECQB1H473KF	CAP,P .047UF-K-50V
C457	ECEA1HGE0R1	CAP,E .1UF/50V
C458	ECA1EM4R7GB	CAP,E 4.7UF/25V
C460	ECA1HM010GB	CAP,E 1.0UF/50V
C462	ECEA1VGE222	CAP,E 2200UF/35V
C463	TACCX103T50V	CAP,C .01UF/50V
C501	TACCW331T50V	CAP,C 330PF/50V
C502	ECA1HM010GB	CAP,E 1.0UF/50V
C503	ECQB1H223KF	CAP,P .022UF-K-50V
C504	ECQB1H103KF	CAP,P .01UF-K-50V
C505	ECQB1H103KF	CAP,P .01UF-K-50V
C506	ECA1AM221GB	CAP,E 220UF/10V
C507	TACCW221T50V	CAP,C 220PF/50V
C509	ECCF1H221JU	CAP,C 220PF-J-50V
C510	ECCD2H100D	CAP,C 10PF-D-500V
C511	ECKD2H821KB	CAP,C 820PF-K-500V
C515	ECKD2H821KB	CAP,C 820PF-K-500V
C531	ECA1EM330GB	CAP,E 33UF/25V
C532	ECA1EM4R7GB	CAP,E 4.7UF/25V
C551	ECA1CM102GB	CAP,E 1000UF/16V
C552	**ECA1EM221GB**	**CAP,E 220UF/25V**
C553	TACCW102T50V	CAP,C .001UF/50V
C554	ECKD2H561KB	CAP,C 560PF-K-500V
C555	**ECEA2EU100**	**CAP,E 10UF/250V**
C556	ECA1HM4R7GB	CAP,E 4.7UF/50V
C557	ECEA1EFS220	CAP,E 22UF-25V
C558	ECEA1EFS101	CAP,E 100UF/25V
C559	ECA1EM220GB	CAP,E 22UF-25V
C560	ECEA1HN2R2U	CAP,E 2.2UF/50V
C561	ECKD2H561KB	CAP,C 560PF-K-500V
C562	ECKD2H561KB	CAP,C 560PF-K-500V
C563	**TAC4R6B822JC**	**CAP,P 8200PF/1200V**
C565	**ECKD3D102JB**	**CAP,C .001UF-J-2KV**

PARTS LIST

REPLACEMENT PARTS LIST

(20" Models)

Important Safety Notice: Components printed in **BOLD TYPE** have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

REF. NO.	PART NO.	DESCRIPTION
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
C565	ECKD3D331JB	CAP,C 330PF-J-2KV
		SP2018U SP2018CU
		TP2008U
C566	ECKD3D181JB	CAP,C 180PF-J-2KV
C567	**ECEA1VGE102**	**CAP,E 1000UF/35V**
C569	**TAC7A2D394JC**	**CAP,P .39UF/200V**
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
C569	TAC7A2D474JC	CAP,P .47UF/200V
		SP2018U SP2018CU
		TP2008U
C574	ECKD2H102KB	CAP,C .001UF-K-500V
C576	TACCX103T50V	CAP,C .01UF/50V
C577	ECA0JM101GB	CAP,E 100UF/6.3V
C579	ECA1EM221GB	CAP,E 220UF/25V
C601	TACCV101T50V	CAP,C 100PF/50V
C602	ECCF1H150JU	CAP,C 15PF-J-50V
C605	TACCV101T50V	CAP,C 100PF/50V
C607	TACCV101T50V	CAP,C 100PF/50V
C801	ECKD2H472PU	CAP,C .0047UF-P-500V
C803	ECKD2H472PU	CAP,C .0047UF-P-500V
C804	ECKD2H472PU	CAP,C .0047UF-P-500V
C805	**EC0S2DA331B4**	**CAP,E 330UF/200V**
C806	**ECEA2CU330**	**CAP,E 33UF/160V**
C809	**ECEA160V33Z**	**CAP,E 33UF/160V**
C810	**ECQU2A153MN**	**CAP,P .015UF-M-250VAC**
C811	**ECQU2A153MN**	**CAP,P .015UF-M-250VAC**
C813	**ECQU2A224MN**	**CAP,P .22UF-M-250VAC**
C2201	AP335K016CAE	CAP,T 3.3UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2202	ECA1HM4R7GB	CAP,E 4.7UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2203	ECA1HM010GB	CAP,E 1.0UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U

REF. NO.	PART NO.	DESCRIPTION
		SP2018CU
C2204	ECA1HM4R7GB	CAP,E 4.7UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2205	ECA1EM4R7GB	CAP,E 4.7UF/25V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2206	ECA1EM4R7GB	CAP,E 4.7UF/25V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2207	ECA1HM4R7GB	CAP,E 4.7UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2208	ECA1HM4R7GB	CAP,E 4.7UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2209	ECA1CM101GB	CAP,E 100UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2210	ECA1HMR33GB	CAP,E .33UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2211	ECA1HM0R1GB	CAP,E 0.1UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U

REPLACEMENT PARTS LIST

(20" Models)

Important Safety Notice: Components printed in **BOLD TYPE** have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

REF. NO.	PART NO.	DESCRIPTION
		SP2018CU
C2212	ECQB1H104JF	CAP,P .1UF-J-50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2213	ECQB1H104JF	CAP,P .1UF-J-50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2214	ECQB1H104JF	CAP,P .1UF-J-50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2215	ECQB1H223JF	CAP,P .022UF-J-50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2216	TACCW332T50V	CAP,C .0033UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2219	AP106K016CAE	CAP,T 10UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2301	ECA1EM471GB	CAP,E 470UF/16V
C2302	ECA1CM220GB	CAP,E 22UF/16V
C2303	ECEA1CGE100	CAP,E 10UF/16V
C2304	ECA1HM2R2GB	CAP,E 2.2UF/50V
C2305	ECEA1HN010U	CAP,E 1UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2306	ECA1CM221GB	CAP,E 220UF/16V
C2307	ECQB1H683KF	CAP,P .068UF-K-50V
C2308	TACCW182T50V	CAP,C 1800PF/50V
C2309	ECA1HM010GB	CAP,E 1.0UF/50V
C2310	ECEA1CN100U	CAP,E 10UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2311	ECEA1HN010U	CAP,E 1UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2351	ECA1EM102GE	CAP,E 1000UF/25V
		CT-20R13U TP2008U
C2351	ECA1EM222GE	CAP,E 2200UF-25V
		CT-2042SU CT-2032SU
C2351	ECEA1EU222	CAP,E 2200UF/25V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U SP2018U
		SP2018CU
C2352	ECA1CM220GB	CAP,E 22UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2353	ECEA1CGE100	CAP,E 10UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2355	ECA1CM221GB	CAP,E 220UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2356	ECQB1H683KF	CAP,P .068UF-K-50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2357	TACCW182T50V	CAP,C 1800PF/50V
		CT-20G31U CT-20G21U

PARTS LIST

REPLACEMENT PARTS LIST

(20" Models)

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REF. NO.	PART NO.	DESCRIPTION
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2358	ECEA1HN010U	CAP,E 1UF/50V
C2359	ECEA1HN010U	CAP,E 1UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2360	ECA1HM010GB	CAP,E 1.0UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
C2451	ECA1CM100GB	CAP,E 10UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
C2452	ECA1CM100GB	CAP,E 10UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
C2453	ECA1HM4R7GB	CAP,E 4.7UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
C2454	ECA1CM221GB	CAP,E 220UF/16V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
C3001	ECA1HM010GB	CAP,E 1.0UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
C3002	ECA1HM010GB	CAP,E 1.0UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
C3003	ECA1CM100GB	CAP,E 10UF/16V
		CT-20R13U
C3004	ECA1CM100GB	CAP,E 10UF/16V
		CT-20R13U
C3005	TACCW331T50V	CAP,C 330PF/50V
		CT-20R13U
C3006	TACCV220T50V	CAP,C 22PF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U

REF. NO.	PART NO.	DESCRIPTION
C3007	ECA1HM100GB	CAP,E 10UF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
C3008	TACCV270T50V	CAP,C 27PF/50V
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
		DIODES
D001	ERA15-01	DIODE
D002	MA167	DIODE
D003	MTZJT-774.7B	DIODE, ZENER
D005	MA165	DIODE
D006	MA165	DIODE
D007	MA165	DIODE
D008	MTZJT-776.8C	DIODE, ZENER
D015	SEL1410G	DIODE, LED CT-20G31U
D024	MTZJT-7736D	DIODE, ZENER
D451	ERA15-01	DIODE
D452	MA165	DIODE
D453	MA165	DIODE
D455	MTZJT-7712C	DIODE, ZENER
D501	MTZJT-778.2B	DIODE, ZENER
D531	**AS01**	**DIODE**
D532	MTZMT-776.2A	DIODE, ZENER
D551	**TVSRU2N**	**DIODE**
D553	**AU02**	**DIODE**
D554	AU02	DIODE
D555	MA165	DIODE
D556	MTZJT-7739D	DIODE, ZENER
D560	MA165	DIODE
D561	**AU02**	**DIODE**
D562	MA2051A	DIODE, ZENER
D563	MA165	DIODE
D801	**EM02BM**	**DIODE, SILICONE**
D802	**EM02BM**	**DIODE, SILICONE**
D803	**EM02BM**	**DIODE, SILICONE**
D804	**EM02BM**	**DIODE, SILICONE**
D805	**TAP104XM05**	**PTC**
D808	**ERZV07D361**	**VARISTOR**
D3001	MA165	DIODE
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
D3002	MTZJT-7711C	DIODE, ZENER CT-20R13U
D3003	MTZJT-7711C	DIODE, ZENER CT-20R13U
		FUSES
F801	**0BA1C40NU100**	**FUSE 4.0A/125V**
		INTEGRATED CIRCUITS
IC001	MN1873265T6F	INT CKT

REPLACEMENT PARTS LIST

(20" Models)

Important Safety Notice: Components printed in **BOLD TYPE** have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

REF. NO.	PART NO.	DESCRIPTION
IC002	24LC02BIP	INT CKT
IC101	AN5163K	INT CKT
IC451	LA7835-TV	INT CKT
IC551	**AN78M09**	**PLUS 9V AVR**
IC552	**AN78L12**	**INT CKT**
IC802	**SE130NLF4**	**INT CKT**
IC2201	AN5818NK	INT CKT
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
IC2301	**AN5265**	**INT CKT**
IC2302	**AN5265**	**INT CKT**
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
IC2451	AN5285K	INT CKT
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
IC3001	MC14066BCP	INT CKT
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
		COILS
DEG	0LK19042A	COIL, DEGAUSSING 20"
DY	**0LY15312F1**	**YOKE, DEFLECTION**
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
DY	**KDY3NE525F**	**YOKE, DEFLECTION**
		SP2018U SP2018CU
		TP2008U
LC301	EIK7EM002Q	DELAY LINE
L001	EXCELSA35	FERRITE BEAD
L002	TLUABTA151K	COIL, PEAKING 150UH
L003	TLUABTA2R2K	COIL, 2.2UH
L004	TLUABTA2R2K	COIL, 2.2UH
L005	EXCELSA39	FERRITE BEAD
L007	EXCELSA24	FERRITE BEAD
L008	EXCELSA24	FERRITE BEAD
L021	TLTACT390KR	COIL, PEAKING 39UH
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
L101	TLUABTA150K	COIL, PEAKING 15UH
L102	TLQ015J205C	COIL, PEAKING
L103	TLQ015J205C	COIL, PEAKING
L104	TLTACT270JR	COIL, PEAKING 27UH
L105	EIV7EN053B	VCO
L108	TLUABTA1R0K	COIL, PEAKING 1.0UH
L151	EIV7EN041B	COIL, AFT
L201	EQS7EN053B	COIL, QUADRATURE
L351	TLUABTA151K	COIL, PEAKING 150UH
L451	ELEIE330KA	COIL, 33UH
L551	**TLH15652P**	**COIL, LINEARITY**
L601	TLUABTA100K	COIL, PEAKING 10UH
L602	TLTACT330JR	COIL, PEAKING 33UH
L801	**ELF18D293M**	**LINE FILTER**
L3001	TLTACT270JR	COIL, PEAKING 27UH
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
		TRANSISTORS
Q001	2SA564AQRS	TRANSISTOR
Q002	2SC1685QRS	TRANSISTOR
Q003	2SC1685QRS	TRANSISTOR
Q004	2SA564AQRS	TRANSISTOR
Q005	2SC1685QRS	TRANSISTOR
Q006	2SC1685QRS	TRANSISTOR
Q306	2SC1685QRS	TRANSISTOR
Q307	2SC1685QRS	TRANSISTOR
Q308	2SA564AQRS	TRANSISTOR
Q351	2SC3063	TRANSISTOR
Q352	2SC3063	TRANSISTOR
Q353	2SC3063	TRANSISTOR
Q451	2SC1685QRS	TRANSISTOR
Q452	2SC1685QRS	TRANSISTOR
Q501	2SC1573AH	TRANSISTOR
Q551	**BU2506DF**	**TRANSISTOR**
Q803	**FN521**	**TRANSISTOR**
Q3001	2SC1685QRS	TRANSISTOR
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
Q3002	2SC1685QRS	TRANSISTOR
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
Q3003	2SC1685QRS	TRANSISTOR
		CT-20R13U
		RELAYS
RL801	**TSEH8007**	**RELAY**
		RESISTORS
R002	ERDS2TJ182	RES,C 1.8K-J-1/4

REPLACEMENT PARTS LIST

(20" Models)

Important Safety Notice: Components printed in **BOLD TYPE** have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

REF. NO.	PART NO.	DESCRIPTION
R003	ERDS2TJ562	RES,C 5.6K–J–1/4
R004	ERDS2TJ271	RES,C 270–J–1/4
R005	ERDS2TJ101	RES,C 100–J–1/4
R006	ERDS2TJ473	RES,C 47K–J–1/4
R007	ERDS2TJ222	RES,C 2.2K–J–1/4
R008	ERDS2TJ222	RES,C 2.2K–J–1/4
R009	ERDS2TJ222	RES,C 2.2K–J–1/4
R010	ERDS2TJ182	RES,C 1.8K–J–1/4
R011	ERDS2TJ681	RES,C 680–J–1/4
R012	ERDS2TJ681	RES,C 680–J–1/4
R013	ERDS2TJ681	RES,C 680–J–1/4
R015	ERDS2TJ392	RES,C 3.9K–J–1/4
R016	ERDS2TJ472	RES,C 4.7K–J–1/4
R017	ERDS2TJ472	RES,C 4.7K–J–1/4
R018	ERDS2TJ683	RES,C 68K–J–1/4
R019	ERDS2TJ823	RES,C 82K–J–1/4
R020	ERDS2TJ474	RES,C 470K–J–1/4
R021	ERDS2TJ101	RES,C 100–J–1/4
R022	ERDS2TJ101	RES,C 100–J–1/4
R023	ERDS2TJ471	RES,C 470–J–1/4
R024	ERDS2TJ272	RES,C 2.7K–J–1/4
R025	ERDS2TJ473	RES,C 47K–J–1/4
R026	ERDS2TJ562	RES,C 5.6K–J–1/4
R027	ERDS2TJ822	RES,C 8.2K–J–1/4
R028	ERDS2TJ823	RES,C 82K–J–1/4
R029	ERDS2TJ222	RES,C 2.2K–J–1/4
R030	ER0S2CKF1002	RES,M 10K–F–1/4
R031	ERDS2TJ121	RES,C 120–J–1/4
R032	ERDS2TJ820	RES,C 82–J–1/4
R033	ERDS2TJ272	RES,C 2.7K–J–1/4
R034	ERDS2TJ222	RES,C 2.2K–J–1/4
R035	ERDS2TJ332	RES,C 3.3K–J–1/4
R036	ERDS2TJ562	RES,C 5.6K–J–1/4
R037	ERDS2TJ103	RES,C 10K–J–1/4
R038	ERDS2TJ273	RES,C 27K–J–1/4
R039	ERDS2TJ102	RES,C 1K–J–1/4
R040	ERDS2TJ102	RES,C 1K–J–1/4
R041	ERDS2TJ122	RES,C 1.2K–J–1/4
R042	ERDS2TJ391	RES,C 390–J–1/4
R043	ERDS2TJ103	RES,C 10K–J–1/4
R044	ERDS2TJ334	RES,C 330K–J–1/4
R045	ERDS2TJ684	RES,C 680K–J–1/4
R046	ERDS2TJ272	RES,C 2.7K–J–1/4
R047	ERDS2TJ223	RES,C 22K–J–1/4
R048	ERDS2TJ392	RES,C 3.9K–J–1/4
R049	ERDS2TJ102	RES,C 1K–J–1/4
R050	ERDS2TJ273	RES,C 27K–J–1/4
		SP2018U SP2018CU
		TP2008U
R050	ERDS2TJ393	RES,C 39K–J–1/4
		CT–20R13U
R051	ERDS2TJ103	RES,C 10K–J–1/4
		CT–20G31U CT–20G21U
		CT–20G21CU CT–20S16U
		CT–20G11U CT–20G11CU
		CT–Z2151U CT–2042SU
		CT–2032SU
R051	ERDS2TJ153	RES,C 15K–J–1/4
		CT–20R13U
R051	ERDS2TJ183	RES,C 18K–J–1/4
		SP2018U SP2018CU
		TP2008U
R054	ERDS2TJ102	RES,C 1K–J–1/4
		CT–20G31U CT–20G21U
		CT–20G21CU CT–20S16U
		CT–20G11U CT–20G11CU
		CT–Z2151U CT–2042SU
		CT–2032SU CT–20R13U
R055	ERDS2TJ101	RES,C 100–J–1/4
R056	ERDS2TJ101	RES,C 100–J–1/4
R061	ERDS2TJ271	RES,C 270–J–1/4
		CT–20G31U
R062	ERDS2TJ103	RES,C 10K–J–1/4
		CT–20G31U CT–20G21U
		CT–20G21CU CT–20S16U
		CT–20G11U CT–20G11CU
		CT–Z2151U CT–2042SU
		CT–2032SU CT–20R13U
R073	ERDS2TJ103	RES,C 10K–J–1/4
R090	ERDS2TJ103	RES,C 10K–J–1/4
		CT–20G11U CT–20G11CU
		CT–Z2151U CT–2042SU
		CT–2032SU SP2018U
		SP2018CU
R090	ERDS2TJ153	RES,C 15K–J–1/4
		CT–20R13U TP2008U
R091	ERDS2TJ103	RES,C 10K–J–1/4
		CT–20G31U CT–20G21U
		CT–20G21CU CT–20S16U
R091	ERDS2TJ393	RES,C 39K–J–1/4
		CT–20R13U TP2008U
R101	ERDS2TJ683	RES,C 68K–J–1/4
R103	ERDS2TJ183	RES,C 18K–J–1/4
R104	ERDS2TJ121	RES,C 120–J–1/4
R105	ERDS2TJ102	RES,C 1K–J–1/4
R106	EVND2AA03B14	CONTROL 10K
R107	ERDS2TJ222	RES,C 2.2K–J–1/4
R111	ERDS2TJ361	RES,C 360–J–1/4
R112	ERDS2TJ561	RES,C 560–J–1/4
R152	ERDS2TJ154	RES,C 150K–J–1/4
R201	ERDS2TJ221	RES,C 220–J–1/4
R202	ERDS2TJ682	RES,C 6.8K–J–1/4
R203	ERDS2TJ392	RES,C 3.9K–J–1/4
R204	ERDS2TJ472	RES,C 4.7K–J–1/4
		CT–20G31U CT–20G21U
		CT–20G21CU CT–20S16U
		CT–20G11U CT–20G11CU
		CT–Z2151U CT–2042SU
		CT–2032SU SP2018U
		SP2018CU
R304	ERDS2TJ274	RES,C 270K–J–1/4
R305	ERDS2TJ102	RES,C 1K–J–1/4

REPLACEMENT PARTS LIST

(20" Models)

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REF. NO.	PART NO.	DESCRIPTION
R306	ERDS2TJ102	RES,C 1K–J–1/4
R310	ERDS2TJ122	RES,C 1.2K–J–1/4
R311	ERDS2TJ681	RES,C 680–J–1/4
R312	ERDS2TJ471	RES,C 470–J–1/4
R313	ERDS2TJ392	RES,C 3.9K–J–1/4
R316	ERDS2TJ682	RES,C 6.8K–J–1/4
R323	ERDS2TJ101	RES,C 100–J–1/4
R326	ERDS2TJ471	RES,C 470–J–1/4
R328	ERDS2TJ332	RES,C 3.3K–J–1/4
R351	ERG2ANJ123	RES,M 12K–J–2W
R352	ERG2ANJ123	RES,M 12K–J–2W
R353	ERG2ANJ123	RES,M 12K–J–2W
R354	ERDS1TJ272	RES,C 2.7K–J–1/2
R355	ERDS1TJ272	RES,C 2.7K–J–1/2
R356	ERDS1TJ272	RES,C 2.7K–J–1/2
R357	ERDS2TJ271	RES,C 270–J–1/4
R358	ERDS2TJ271	RES,C 270–J–1/4
R359	ERDS2TJ271	RES,C 270–J–1/4
R360	ERDS2TJ182	RES,C 1.8K–J–1/4
R361	ERDS2TJ182	RES,C 1.8K–J–1/4
R362	ERDS2TJ182	RES,C 1.8K–J–1/4
R363	ERDS2TJ101	RES,C 100–J–1/4
R364	ERDS2TJ101	RES,C 100–J–1/4
R365	ERDS2TJ101	RES,C 100–J–1/4
R401	ERDS2TJ224	RES,C 220K–J–1/4
R402	ERDS2TJ561	RES,C 560–J–1/4
R404	ERDS2TJ221	RES,C 220–J–1/4
R451	ERDS2TJ681	RES,C 680–J–1/4
R452	ERDS2TJ333	RES,C 33K–J–1/4
		CT–20G31U CT–20G21U
		CT–20G21CU CT–20S16U
		CT–20G11U CT–20G11CU
		CT–Z2151U CT–2042SU
		CT–2032SU CT–20R13U
R452	ERDS2TJ393	RES,C 39K–J–1/4
		SP2018U SP2018CU
		TP2008U
R453	EVND2AA03B34	CONTROL 30K
R455	ERDS2TJ223	RES,C 22K–J–1/4
R456	ERDS2TJ332	RES,C 3.3K–J–1/4
R457	ERDS2TJ152	RES,C 1.5K–J–1/4
R458	ERDS2TJ333	RES,C 33K–J–1/4
R459	ERDS2TJ102	RES,C 1K–J–1/4
R460	ERDS2TJ103	RES,C 10K–J–1/4
R462	ERDS2TJ473	RES,C 47K–J–1/4
R463	ERDS2TJ224	RES,C 220K–J–1/4
R464	ERDS2TJ124	RES,C 120K–J–1/4
R466	ERDS2TJ101	RES,C 100–J–1/4
R467	ERDS2TJ102	RES,C 1K–J–1/4
R469	ERDS1FJ1R8	RES,C 1.8–J–1/2
R470	ERDS2TJ153	RES,C 15K–J–1/4
R471	ERDS2TJ271	RES,C 270–J–1/4
R501	ERDS2TJ102	RES,C 1K–J–1/4
R502	ERDS2TJ222	RES,C 2.2K–J–1/4
R503	ERDS2TJ392	RES,C 3.9K–J–1/4
R504	ERDS2TJ821	RES,C 820–J–1/4
R505	ERDS2TJ472	RES,C 4.7K–J–1/4
R506	ERDS2TJ680	RES,C 68–J–1/4
R507	ERDS2TJ562	RES,C 5.6K–J–1/4
R508	ERDS2TJ822	RES,C 8.2K–J–1/4
R509	ERG2ANJ562	RES,M 5.6K–J–2W
R510	ERG2ANJ911	RES,M 910–J–2W
R511	ERG2ANJ911	RES,M 910–J–2W
R514	ERDS2TJ391	RES,C 390–J–1/4
R515	ERDS2TJ224	RES,C 220K–J–1/4
R531	ERD25FJ470	RES,C 47–J–1/4
R532	**ER0S2CKF4422**	**RES,M 44.2K–F–1/4**
R533	**ER0S2CKF7151**	**RES,M 7.15K–F–1/4**
R534	ERDS2TJ684	RES,C 680K–J–1/4
R538	ERDS2TJ821	RES,C 820–J–1/4
R539	ERDS2TJ681	RES,C 680–J–1/4
R551	**ERDS1FJ1R0**	**RES,C 1.0–J–1/2**
R552	**ERDS1FJ1R0**	**RES,C 1.0–J–1/2**
R553	**ERDS1FJ1R0**	**RES,C 1.0–J–1/2**
R554	ERG2ANJ620	RES,M 62–J–2W
R555	ERDS2TJ221	RES,C 220–J–1/4
R556	ERDS2TJ332	RES,C 3.3K–J–1/4
R557	ERDS2TJ103	RES,C 10K–J–1/4
R558	**ERQ1CJR82**	**RES,F .82–J–1W**
		CT–20G31U CT–20G21U
		CT–20G21CU CT–20S16U
		CT–20G11U CT–20G11CU
		CT–Z2151U CT–2042SU
		CT–2032SU CT–20R13U
R558	**ERQ12HKR47**	**RES,F .47–K–1/2**
		SP2018U SP2018CU
		TP2008U
R560	ERDS1TJ681	RES,C 680–J–1/2
R562	**ERG3ANJ680**	**RES,M 68–J–3W**
R563	ERDS2TJ124	RES,C 120K–J–1/4
R564	ERDS2TJ104	RES,C 100K–J–1/4
R565	ERDS2TJ103	RES,C 10K–J–1/4
R566	ERG2ANJ683	RES,M 68K–J–2W
R584	ERG2ANJ122	RES,M 1.2K–J–2W
R601	ERDS2TJ332	RES,C 3.3K–J–1/4
R602	ERDS2TJ182	RES,C 1.8K–J–1/4
R604	ERDS2TJ331	RES,C 330–J–1/4
R605	ERDS2TJ331	RES,C 330–J–1/4
R606	ERDS2TJ331	RES,C 330–J–1/4
R614	ERDS2TJ222	RES,C 2.2K–J–1/4
R615	ERDS2TJ222	RES,C 2.2K–J–1/4
R616	ERDS2TJ222	RES,C 2.2K–J–1/4
R617	ERDS2TJ222	RES,C 2.2K–J–1/4
R619	ERDS2TJ471	RES,C 470–J–1/4
R801	**ERF7ZK2R7**	**RES,W 2.7–K–7W**
R802	ERDS2TJ334	RES,C 330K–J–1/4
R803	ERDS1FJ123	RES,C 12K–J–1/2
R804	ERQ14AJ470	RES,F 47–J–1/4
R805	ERDS1TJ393	RES,C 39K–J–1/2
R811	ERW12PK4R7	RES,W 4.7–K–1/2W
R815	**ERC12ZGM825**	**RES,S 8.2MEG–M–1/2**
R817	ERX3ANJ4R7	RES,M 4.7–J–3W

REPLACEMENT PARTS LIST

(20" Models)

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REF. NO.	PART NO.	DESCRIPTION
R818	**ERF20ZJ181**	**RES,W 180–J–20W**
R1051	ERDS2TJ102	RES,C 1K–J–1/4
R2201	ERDS2TJ472	RES,C 4.7K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2202	ERDS2TJ153	RES,C 15K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2203	ERDS2TJ104	RES,C 100K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2204	ERDS2TJ473	RES,C 47K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2205	ERDS2TJ154	RES,C 150K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2206	ERDS2TJ102	RES,C 1K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2207	ERDS2TJ102	RES,C 1K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2208	ER0S2CKF9102	RES,M 91K–F–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU
		CT–2032SU SP2018U SP2018CU
R2212	ERDS2TJ682	RES,C 6.8K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2219	ERDS2TJ564	RES,C 560K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2220	ERDS2TJ101	RES,C 100–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2221	ERDS2TJ101	RES,C 100–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2301	ERQ1CJP220	RES,F 22–J–1W CT–20R13U TP2008U
R2301	ERQ2CJP100	RES,F 10–J–2W CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2304	ERDS2TJ183	RES,C 18K–J–1/4
R2305	ERDS2TJ102	RES,C 1K–J–1/4
R2306	ERD25FJ4R7	RES,C 4.7–J–1/4
R2307	ERDS2TJ102	RES,C 1K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U CT–20G11U CT–20G11CU CT–Z2151U CT–2042SU CT–2032SU SP2018U SP2018CU
R2307	ERDS2TJ331	RES,C 330–J–1/4 CT–20R13U TP2008U
R2309	ERDS2TJ103	RES,C 10K–J–1/4 CT–20G31U CT–20G21U CT–20G21CU CT–20S16U
R2310	ERDS2TJ122	RES,C 1.2K–J–1/4 CT–20G31U CT–20G21U

REPLACEMENT PARTS LIST

(20" Models)

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REF. NO.	PART NO.	DESCRIPTION
		CT-20G21CU CT-20S16U
R2353	ERDS2TJ183	RES,C 18K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
R2354	ERDS2TJ102	RES,C 1K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
R2355	ERD25FJ4R7	RES,C 4.7-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
R2356	ERDS2TJ102	RES,C 1K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
R2357	ERDS2TJ103	RES,C 10K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
R2358	ERDS2TJ122	RES,C 1.2K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
R2451	ERDS2TJ225	RES,C 2.2MEG-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
R2455	ERDS2TJ243	RES,C 24K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
R2456	ERDS2TJ103	RES,C 10K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
R3001	ERDS2TJ103	RES,C 10K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
R3002	ERDS2TJ223	RES,C 22K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
R3003	ERDS2TJ473	RES,C 47K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
R3004	ERDS2TJ104	RES,C 100K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
R3006	ERDS2TJ102	RES,C 1K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
R3007	ERDS2TJ334	RES,C 330K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
R3008	ERDS2TJ334	RES,C 330K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
R3009	ERDS2TJ102	RES,C 1K-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
R3010	ERDS2TJ683	RES,C 68K-J-1/4
		CT-20R13U
R3011	ERDS2TJ102	RES,C 1K-J-1/4
		CT-20R13U
R3012	ERDS2TJ224	RES,C 220K-J-1/4
		CT-20R13U
R3013	ERDS2TJ203	RES,C 20K-J-1/4
		CT-20R13U
R3014	ERDS2TJ332	RES,C 3.3K-J-1/4
		CT-20R13U
R3015	ERDS2TJ304	RES,C 300K-J-1/4
		CT-20R13U
R3017	ERDS2TJ221	RES,C 220-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
R3018	ERDS2TJ391	RES,C 390-J-1/4
		CT-20G31U CT-20G21U

REPLACEMENT PARTS LIST

(20" Models)

Important Safety Notice: Components printed in **BOLD TYPE** have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

REF. NO.	PART NO.	DESCRIPTION
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
R3019	ERDS2TJ101	RES,C 100-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
R3020	ERDS2TJ750	RES,C 75-J-1/4
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
		SWITCHES
S001	EVQQBH12T	SWITCH, PUSH
		CT-2042SU CT-2032SU
S001	EVQQKH06K	SWITCH
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U SP2018U
		SP2018CU CT-20R13U
		TP2008U
S002	EVQQBH12T	SWITCH, PUSH
		CT-2042SU CT-2032SU
S002	EVQQKH06K	SWITCH
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U SP2018U
		SP2018CU CT-20R13U
		TP2008U
S003	EVQQBH12T	SWITCH, PUSH
		CT-2042SU CT-2032SU
S003	EVQQKH06K	SWITCH
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U SP2018U
		SP2018CU CT-20R13U
		TP2008U
S004	EVQQBH12T	SWITCH, PUSH
		CT-2042SU CT-2032SU
S004	EVQQKH06K	SWITCH
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U SP2018U
		SP2018CU CT-20R13U
		TP2008U
S005	EVQQBH12T	SWITCH, PUSH
		CT-2042SU CT-2032SU
S005	EVQQKH06K	SWITCH
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U SP2018U
		SP2018CU CT-20R13U
		TP2008U
S006	EVQQBH12T	SWITCH, PUSH
		CT-2042SU CT-2032SU
S006	EVQQKH06K	SWITCH
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U SP2018U
		SP2018CU CT-20R13U
		TP2008U
S007	EVQQBH12T	SWITCH, PUSH
		CT-2042SU CT-2032SU
S007	EVQQKH06K	SWITCH
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-20R13U
S2301	ESB621283	SWITCH, CATV
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		TRANSFORMERS
T001	**TLP16297**	**TRANSFORMER, POWER SUPPLY**
T501	**ETH19Y70AYM**	**TRANSFORMER, HORIZONTAL DRIVER**
T502	**ETE19Z30AY**	**TRANSFORMER, HORIZONTAL COUPLING**
T551	**TLF15615F2**	**TRANSFORMER, FLYBACK**
		CRYSTALS/FILTERS
X001	TSS2080MX	CRYSTAL, 12 MHZ CLOCK
X101	EFCKM1963M	CERAMIC FILTER
X102	EFCWS4504AB	FILTER, CERAP
X201	EFCS4R5MS4	FILTER 4.5MHZ BANDPASS
		CT-20R13U TP2008U
X201	EFCS4R5MS4W	FILTER 4.5MHZ BANDPASS
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU SP2018U
		SP2018CU
X501	EF0A503KS41	CRYSTAL, 503KHZ OSCILLATOR
X601	TS816M32	CRYSTAL, 3.58MHZ OSCILLATOR
		OTHERS
IC1051	PIC-12042SRB	TRANSMITTER, REMOTE CONTROL
TNR001	ENV56D01G3	TUNER
M001	**A51ACG30X**	**CRT 20"**
		SP2018U SP2018CU
		TP2008U
M002	**A51KQN011X**	**CRT 20"**
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U

REPLACEMENT PARTS LIST

(20" Models)

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REF. NO.	PART NO.	DESCRIPTION
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU CT-20R13U
M003	EAGG1202B2	SPEAKER CT-20G31U
M004	EASG9D523A2	SPEAKER
		CT-20G21U CT-20G21CU
		CT-20S16U CT-20G11U
		CT-20G11CU CT-Z2151U
		CT-2042SU CT-2032SU
		CT-20R13U
M005	EASG9D543A2	SPEAKER
		SP2018U SP2018CU
		TP2008U
M006	EUR501337	TRANSMITTER, REMOTE CONTROL
		CT-20S16U CT-20G11U
		CT-20G11CU CT-Z2151U
		CT-2032SU CT-20R13U
M007	EUR501345	TRANSMITTER, REMOTE CONTROL
		SP2018U SP2018CU
		TP2008U
M008	EUR511000A	TRANSMITTER, REMOTE CONTROL
		CT-20G31U CT-20G21U
		CT-20G21CU CT-2042SU
M009	UR51CS810	BATTERY COVER, REMOTE
		CONTROL
M010	TBM2A30832	BADGE, PANASONIC
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-20R13U
M011	TBM2A52511-1	NAMEPLATE, MODEL
		SP2018CU
M012	TBX1886601	PUSHBUTTON, SPEAKER
		CT-20G31U CT-20G21U
		CT-20G21CU CT-20S16U
		CT-2042SU CT-2032SU
M013	TBX2AA00201G	PUSHBUTTON, 7 KEY
		SP2018U SP2018CU
		TP2008U
M014	TBX2A50151-1	PUSHBUTTON, 7 KEY
		CT-20G31U
M015	TBX2A50182G	PUSHBUTTON, 7 KEY
		CT-2042SU CT-2032SU
M016	TBX2A50231G	PUSHBUTTON, 7 KEY
		CT-20G21U CT-20G21CU
		CT-20S16U CT-20G11U
		CT-20G11CU CT-Z2151U
		CT-20R13U
M017	TES2A20801	SPRING, DAG GROUND
M018	TJB2A20701	ANTENNA CONVERTER 75-300
		CT-Z2151U
M019	**TJS1A5050**	**CRT SOCKET**
M020	TKP2A10981	PANEL, SMOKED CT-20G31U
M021	TKP2A11172	SPEAKER GRILLE CT-20G31U
M022	TXFKY1896SER	ASSY, CABINET FRONT
		TP2008U
M023	TKU2A22210M	COVER, CABINET BACK
		TP2008U
M024	TXFKY0396SER	ASSY, CABINET FRONT
		CT-20G11U
M025	TXFKY0496SER	ASSY, CABINET FRONT
		CT-20G11CU
M026	TXFKY2196SER	ASSY, CABINET FRONT
		CT-Z2151U
M027	TXFKY3296SER	ASSY, CABINET FRONT
		CT-2042SU CT-2032SU
M028	TKU2A22211M	COVER, CABINET BACK
		CT-20G11U CT-20G11CU
		CT-Z2151U CT-2042SU
		CT-2032SU
M029	TXFKY3196SER	ASSY, CABINET FRONT
		CT-20R13U
M030	TKU2A22212M	COVER, CABINET BACK
		CT-20R13U
M031	TXFKY1396SER	ASSY, CABINET FRONT
		SP2018U SP2018CU
M032	TKU2A22213M	COVER, CABINET BACK
		SP2018U SP2018CU
M033	TXFKY0996SER	ASSY, CABINET FRONT
		CT-20G21U
M034	TXFKY1196SER	ASSY, CABINET FRONT
		CT-20S16U
M035	TKU2A22214M	COVER, CABINET BACK
		CT-20G21U CT-20S16U
M036	TXFKY1296SER	ASSY, CABINET FRONT
		CT-20G31U
M037	TXFKU1096SER	ASSY, CABINET BACK
		CT-20G31U
M038	TXFKY1096SER	ASSY, CABINET FRONT
		CT-20G21CU
M039	TXFKU0996SER	ASSY, CABINET BACK
		CT-20G21CU
M040	TQB2AA0007	MANUAL, OWNER'S
		CT-20G31U CT-20G21U
M041	TQB2AA0009	MANUAL, OWNER'S
		CT-20G21CU
M042	TQB2AA0010	MANUAL, OWNER'S
		CT-20G11U CT-2042SU
M043	TQB2AA0011	MANUAL, OWNER'S
		CT-20G11CU
M044	TQB2AA0012	MANUAL, OWNER'S CT-Z2151U
M045	TQB2AA0013	MANUAL, OWNER'S CT-20R13U
M046	TQB2AA0020	MANUAL, OWNER'S SP2018U
M047	TQB2AA0022	MANUAL, OWNER'S TP2008U
M048	TQB2AA0037	MANUAL, OWNER'S (FR)
		SP2018CU
M049	TQB2AA0055	MANUAL, OWNER'S CT-2032SU
M050	TQB2AA0056	MANUAL, OWNER'S CT-20S16U
M051	**TSX3134X**	**AC LINE CORD CT-20G31U**
M052	**TSX5140X**	**AC LINE CORD**
		CT-20G21U CT-20G21CU
		CT-20S16U CT-20G11U

REPLACEMENT PARTS LIST

(20" Models)

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REF. NO.	PART NO.	DESCRIPTION
		CT–20G11CU CT–Z2151U
		CT–2042SU CT–2032SU
		SP2018U SP2018CU
		CT–20R13U TP2008U
M053	TXF3A011DB2	ASSY. DAG GROUND
M054	0FMK014ZZ	CONVERGENCE CORRECTOR STRIP
M055	0SA100005	ANTENNA, VHF CT–Z2151U
JK3001	TJB2A9061A	BRKT, A/V CT–20R13U
JK3001	TJB2A9063A	BRKT, A/V VAO A/V IN

REF. NO.	PART NO.	DESCRIPTION
		CT–20G31U CT–20G21U
		CT–20G21CU CT–20S16U
JK3001	TJB2A9064A	BRKT, A/V VAO A/V IN
		CT–20G11U CT–20G11CU
		CT–Z2151U CT–2042SU
		CT–2032SU
M056	T8A258	SILICONE GREASE–HEAT SINK
		COMPOUND

REPLACEMENT PARTS LIST

(27" Models)

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REF. NO.	PART NO.	DESCRIPTION
		CAPRISTORS
CRA802	**EXNG131P365**	**RES–CAP 130PF/3.6 MEG**
CRA803	**EXNG131P365**	**RES–CAP 130PF/3.6 MEG**
		CAPACITORS
C002	TACCX103T50V	CAP,C .01UF/50V
C004	ECA1HM010GB	CAP,E 1.0UF/50V
C006	TACCW101T50V	CAP,C 100PF/50V
C007	TACCW101T50V	CAP,C 100PF/50V
C008	TACCX103T50V	CAP,C .01UF/50V
C010	TACCX103T50V	CAP,C .01UF/50V
C011	ECA0JM331GB	CAP,E 330UF/10V
C012	ECEA1AFS331	CAP,E 330UF–10V
C013	ECA1CM101GB	CAP,E 100UF/16V
C014	TACCQ221T50V	CAP,C 220PF/50V
C017	TACCQ330T50V	CAP,C 33PF/50V
C018	TACCQ330T50V	CAP,C 33PF/50V
C019	ECA1CM101GB	CAP,E 100UF/16V
C020	ECA1CM101GB	CAP,E 100UF/16V
C021	TACCQ181T50V	CAP,C 180PF/50V
C022	ECA1CM471GB	CAP,E 470UF/16V
C023	TACCX103T50V	CAP,C .01UF/50V
C024	ECA1EM4R7GB	CAP,E 4.7UF/25V
C025	TACCQ680T50V	CAP,C 68PF/50V
C026	TACCQ680T50V	CAP,C 68PF/50V
C027	ECA1HM3R3GB	CAP,E 3.3UF/50V
C037	TACCW222T50V	CAP,C 2200PF/50V
C040	TACCW103T50V	CAP,C .01UF/50V
C101	TACCX223T50V	CAP,C .022UF/50V
C102	ECA1HM100GB	CAP,E 10UF/50V
C104	ECA1HMR22GB	CAP,E .22UF/50V
C105	TACCQ270T50V	CAP,C 27PF/50V
C106	TACCW122T50V	CAP,C 1200PF/50V
C107	ECA1HMR47GB	CAP,E .47UF/50V
C108	ECEA1CN100U	CAP,E 10UF–16V
C109	ECA1HM100GB	CAP,E 10UF/50V
C110	TACCX103T50V	CAP,C .01UF/50V
C111	TACCR010T50V	CAP,C 10PF/50V
C114	TACCV330T50V	CAP,C 33PF/50V
C115	TACCX103T50V	CAP,C .01UF/50V
C117	TACCW121T50V	CAP,C 120PF/50V
C151	ECA1HMR22GB	CAP,E .22UF/50V
C152	TACCQ680T50V	CAP,C 68PF/50V
C153	TACCQ150T50V	CAP,C 15PF/50V
C201	ECCF1H680JP	CAP,C 68PF–J–50V
C202	TACCX103T50V	CAP,C .01UF/50V
C203	TACCX103T50V	CAP,C .01UF/50V
C301	ECA1HM100GB	CAP,E 10UF/50V
C302	ECA1AM331GB	CAP,E 330UF/10V
C303	ECA1EM4R7GB	CAP,E 4.7UF/25V
C304	ECA1EM4R7GB	CAP,E 4.7UF/25V
C305	ECA1HMR33GB	CAP,E .33UF/50V
C306	ECA1EM4R7GB	CAP,E 4.7UF/25V
C307	TACCX103T50V	CAP,C .01UF/50V
C308	ECQB1H223KF	CAP,P .022UF–K–50V
C309	ECEA1HN010S	CAP,E 1UF/50V
C311	ECA1HM4R7GB	CAP,E 4.7UF/50V
C312	ECA1CM220GB	CAP,E 22UF/16V
C313	ECCF1H390K	CAP,C 39PF–K–50V
C314	TACCW221T50V	CAP,C 220PF/50V
C351	TACCW561T50V	CAP,C 560PF/50V
C352	TACCW561T50V	CAP,C 560PF/50V
C353	TACCW681T50V	CAP,C 680PF/50V
C354	ECKD3D102KB	CAP,C .001UF–K–2KV
C401	ECA1HMR33GB	CAP,E .33UF/50V
C402	TACCW681T50V	CAP,C 680PF/50V
C403	ECEA1HN010U	CAP,E 1UF–50V
C451	ECEA1CGE221	CAP,E 220UF/16V
C452	ECSF1EE105	CAP,T 1.0UF/25V
C453	ECEA1HFS010	CAP,E 1UF/50V
C454	ECEA1EGE102	CAP,E 1000UF/25V
C455	ECA1VM101GB	CAP,E 100UF/35V
C456	ECQB1H224KF	CAP,P .22UF–K–50V
C457	ECEA1HFS100	CAP,E 10UF–50V
C458	ECA1EM4R7GB	CAP,E 4.7UF/25V
C460	ECA1HM010GB	CAP,E 1.0UF/50V
C461	ECQM1104JZ	CAP,P .1UF–J–100V
C462	ECEA1VGE222	CAP,E 2200UF/35V
C463	TACCX103T50V	CAP,C .01UF/50V
C501	TACCW331T50V	CAP,C 330PF/50V
C502	ECA1HM010GB	CAP,E 1.0UF/50V
C503	ECQB1H223JF	CAP,P .022UF–J–50V
C504	ECQB1H103KF	CAP,P .01UF–K–50V
C505	ECQB1H153KF	CAP,P .015UF–K–50V
C506	ECA1AM221GB	CAP,E 220UF/10V
C507	TACCW221T50V	CAP,C 220PF/50V
C509	ECCF1H221JU	CAP,C 220PF–J–50V
C510	ECCD2H100D	CAP,C 10PF–D–500V
C511	ECKD2H821KB	CAP,C 820PF–K–500V
C515	ECKD2H101KB	CAP,C 100PF–K–500V
C531	ECA1EM330GB	CAP,E 33UF/25V
C532	ECA1EM4R7GB	CAP,E 4.7UF/25V
C551	ECA1CM102GB	CAP,E 1000UF/16V
		CT–27G11U CT–27G11UU
		CT–27G11CU CT–2757SU
		CT–2757SCU CT–27S4CU
C551	ECA1CM102GE	CAP,E 1000UF/16V
		SP2718U SP2718UU
		SP2718CU
C552	**ECA1EM221GB**	**CAP,E 220UF/25V**
C553	TACCW102T50V	CAP,C .001UF/50V
C554	ECKD2H561KB	CAP,C 560PF–K–500V
C555	**ECEA2EU220**	**CAP,E 22UF/250V**
C556	ECA1HM4R7GB	CAP,E 4.7UF/50V
C557	ECEA1EFS220	CAP,E 22UF–25V
C558	ECEA1EFS101	CAP,E 100UF/25V
C559	ECA2AM220GB	CAP,E 22UF/100V
C560	ECEA1HN2R2U	CAP,E 2.2UF/50V
C561	ECKD2H561KB	CAP,C 560PF–K–500V
C562	ECKD2H561KB	CAP,C 560PF–K–500V
C563	**TAC4R6B682JC**	**CAP,P 6800PF/1200V**
C564	**TAC4R6B562JC**	**CAP,P 5600PF/1200V**
C565	**ECKD3D102JB**	**CAP,C .001UF–J–2KV**

PARTS LIST

REPLACEMENT PARTS LIST

(27" Models)

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REF. NO.	PART NO.	DESCRIPTION
C566	ECKD3D181JB	CAP,C 180PF–J–2KV
C567	**ECEA1VGE102**	**CAP,E 1000UF/35V**
C568	ECQM2274JZ	CAP,P .27UF–J–200V
C569	**TAC7A2D474JC**	**CAP,P .47UF/200V**
C574	ECKD2H102KB	CAP,C .001UF–K–500V
C576	TACCX103T50V	CAP,C .01UF/50V
C577	ECA0JM101GB	CAP,E 100UF/6.3V
C579	ECA1EM221GB	CAP,E 220UF/25V
C601	TACCV101T50V	CAP,C 100PF/50V
C602	ECCF1H150JU	CAP,C 15PF–J–50V
C605	TACCV101T50V	CAP,C 100PF/50V
C607	TACCV101T50V	CAP,C 100PF/50V
C801	ECKD2H472PU	CAP,C .0047UF–P–500V
C803	ECKD2H472PU	CAP,C .0047UF–P–500V
C804	ECKD2H472PU	CAP,C .0047UF–P–500V
C805	**EC0S2DA331B4**	**CAP,E 330UF–200V**
C806	**ECEA2CU330**	**CAP,E 33UF/160V**
C809	**ECEA160V33Z**	**CAP,E 33UF/160V**
C810	**ECQU2A153MN**	**CAP,P .015UF–M–250VAC**
C811	**ECQU2A153MN**	**CAP,P .015UF–M–250VAC**
C813	**ECQU2A224MN**	**CAP,P .22UF–M–250VAC**
C1021	ECEA1AFS470	CAP,E 47UF/10V
		CT–27G11CU
C1022	ECKF1H103ZF	CAP,C .01UF–Z–50V
		CT–27G11CU
C2201	AP335K016CAE	CAP,T 3.3UF/16V
C2202	ECA1HM4R7GB	CAP,E 4.7UF/50V
C2203	ECA1HM010GB	CAP,E 1.0UF/50V
C2204	ECA1HM4R7GB	CAP,E 4.7UF/50V
C2205	ECA1EM4R7GB	CAP,E 4.7UF/25V
C2206	ECA1EM4R7GB	CAP,E 4.7UF/25V
C2207	ECA1HM4R7GB	CAP,E 4.7UF/50V
C2208	ECA1HM4R7GB	CAP,E 4.7UF/50V
C2209	ECA1CM101GB	CAP,E 100UF/16V
C2210	ECA1HMR33GB	CAP,E .33UF/50V
C2211	ECA1HM0R1GB	CAP,E 0.1UF/50V
C2212	ECQB1H104JF	CAP,P .1UF–J–50V
C2213	ECQB1H104JF	CAP,P .1UF–J–50V
C2214	ECQB1H104JF	CAP,P .1UF–J–50V
C2215	ECQB1H223JF	CAP,P .022UF–J–50V
C2216	TACCW332T50V	CAP,C .0033UF/50V
C2219	AP106K016CAE	CAP,T 10UF/16V
C2301	ECA1EM471GB	CAP,E 470UF–16V
C2302	ECA1CM220GB	CAP,E 22UF/16V
C2303	ECEA1CGE100	CAP,E 10UF/16V
C2304	ECA1HM2R2GB	CAP,E 2.2UF/50V
C2305	ECEA1HN010U	CAP,E 1UF–50V
C2306	ECA1CM221GB	CAP,E 220UF/16V
C2307	ECQB1H683KF	CAP,P .068UF–K–50V
C2308	TACCW681T50V	CAP,C 680PF/50V
C2309	ECA1HM010GB	CAP,E 1.0UF/50V
C2310	ECEA1CN100U	CAP,E 10UF–16V
C2311	ECEA1HN010U	CAP,E 1UF–50V
C2351	ECA1EM222GE	CAP,E 2200UF–25V
C2352	ECA1CM220GB	CAP,E 22UF/16V
C2353	ECEA1CGE100	CAP,E 10UF/16V
C2355	ECA1CM221GB	CAP,E 220UF/16V
C2356	ECQB1H683KF	CAP,P .068UF–K–50V
C2357	TACCW681T50V	CAP,C 680PF/50V
C2358	ECEA1HN010U	CAP,E 1UF–50V
C2359	ECEA1HN010U	CAP,E 1UF–50V
C2360	ECA1HM010GB	CAP,E 1.0UF/50V
C2451	ECA1CM100GB	CAP,E 10UF/16V
		CT–27G11U CT–27G11UU
		CT–27G11CU CT–27S4CU
C2452	ECA1CM100GB	CAP,E 10UF/16V
		CT–27G11U CT–27G11UU
		CT–27G11CU CT–27S4CU
C2453	ECA1HM4R7GB	CAP,E 4.7UF/50V
		CT–27G11U CT–27G11UU
		CT–27G11CU CT–27S4CU
C2454	ECA1CM221GB	CAP,E 220UF/16V
		CT–27G11U CT–27G11UU
		CT–27G11CU CT–27S4CU
C3001	ECA1HM010GB	CAP,E 1.0UF/50V
C3002	ECA1HM010GB	CAP,E 1.0UF/50V
C3006	TACCV220T50V	CAP,C 22PF/50V
C3007	ECA1HM100GB	CAP,E 10UF/50V
C3008	TACCV270T50V	CAP,C 27PF/50V
		DIODES
D001	ERA15–01	DIODE
D002	MA167	DIODE
D003	MTZJT–774.7B	DIODE, ZENER
D005	MA165	DIODE
D006	MA165	DIODE
D007	MA165	DIODE
D024	MTZJT–7736D	DIODE, ZENER
D351	MTZJT–776.2A	DIODE, ZENER
D352	MTZJT–776.2A	DIODE, ZENER
D353	MTZJT–776.2A	DIODE, ZENER
D451	ERA15–01	DIODE
D452	MA165	DIODE
D453	MA165	DIODE
D455	MTZJT–7712C	DIODE, ZENER
D501	MTZJT–778.2B	DIODE, ZENER
D531	**AS01**	**DIODE**
D532	MTZMT–776.2A	DIODE, ZENER
D551	**TVSRU2N**	**DIODE**
D553	**AU02**	**DIODE**
D554	AU02	DIODE
D555	MA165	DIODE
D556	MTZJT–7739D	DIODE, ZENER
D558	RS3FS	DIODE
D559	TVSRU2M	DIODE
D560	MA165	DIODE
D561	**AU02**	**DIODE**
D562	MA2051A	DIODE, ZENER
D563	MA165	DIODE
D801	**TVSRM11B**	**DIODE**
D802	**TVSRM11B**	**DIODE**
D803	**TVSRM11B**	**DIODE**
D804	**TVSRM11B**	**DIODE**

REPLACEMENT PARTS LIST

(27" Models)

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REF. NO.	PART NO.	DESCRIPTION
D805	**TRPW5B0M050D**	**THERMISTOR**
D808	**ERZV07D361**	**VARISTOR**
D3001	MA165	DIODE
		FUSES
F801	**0BA1C40NU100**	**FUSE 4.0A/125V**
		INTEGRATED CIRCUITS
IC001	MN1873265T6F	INT CKT
IC002	24LC02BIP	INT CKT
IC101	AN5163K	INT CKT
IC451	LA7836–TV	INT CKT
IC551	**AN78M09**	**PLUS 9V AVR**
IC552	**AN78L12**	**INT CKT**
IC802	**SE130NLF4**	**INT CKT**
IC2201	AN5818NK	INT CKT
IC2301	**AN5265**	**INT CKT**
IC2302	**AN5265**	**INT CKT**
IC2451	AN5285K	INT CKT
		CT–27G11U CT–27G11UU
		CT–27G11CU CT–27S4CU
IC3001	MC14066BCP	INT CKT
		COILS
DEG	0LK19045A	COIL, DEGAUSSING 27"
DY	**TLY15525F**	**YOKE DEFLECTION**
LC301	EIK7EM002Q	DELAY LINE
L001	EXCELSA35	FERRITE BEAD
L003	TLUABTA2R2K	COIL, 2.2UH
L004	TLUABTA2R2K	COIL, 2.2UH
L005	EXCELSA39	FERRITE BEAD
L007	EXCELSA24	FERRITE BEAD
L008	EXCELSA24	FERRITE BEAD
L021	TLTACT390KR	COIL, PEAKING 39UH
L101	TLUABTA150K	COIL, PEAKING 15UH
L102	TLQ015J205C	COIL, PEAKING
L103	TLQ015J205C	COIL, PEAKING
L104	TLTACT270JR	COIL, PEAKING
L105	EIV7EN053B	VCO
L108	TLUABTA1R0K	COIL, PEAKING 1.0UH
L151	EIV7EN041B	COIL, AFT
L201	EQS7EN053B	COIL, QUADRATURE
L352	EXCELSA24	FERRITE BEAD
L451	ELEIE330JA	COIL, 33UH
L551	**TLH6621P**	**COIL, LINEARITY**
L601	TLUABTA100K	COIL, PEAKING 10UH
L602	TLTACT330JR	COIL, PEAKING
L801	**TLPD012**	**LINE FILTER**
L3001	TLTACT270JR	COIL, PEAKING
		TRANSISTORS
Q001	2SA564AQRS	TRANSISTOR
Q002	2SC1685QRS	TRANSISTOR
Q003	2SC1685QRS	TRANSISTOR
Q004	2SA564AQRS	TRANSISTOR
Q005	2SC1685QRS	TRANSISTOR
Q006	2SC1685QRS	TRANSISTOR
Q306	2SC1685QRS	TRANSISTOR
Q307	2SC1685QRS	TRANSISTOR
Q308	2SA564AQRS	TRANSISTOR
Q351	2SC3063	TRANSISTOR
Q352	2SC3063	TRANSISTOR
Q353	2SC3063	TRANSISTOR
Q451	2SC1685QRS	TRANSISTOR
Q452	2SC1685QRS	TRANSISTOR
Q501	2SC4212H	TRANSISTOR
Q551	**BU2508DF**	**TRANSISTOR**
Q801	**FN521**	**TRANSISTOR**
Q802	**FN521**	**TRANSISTOR**
Q3001	2SC1685QRS	TRANSISTOR
Q3002	2SC1685QRS	TRANSISTOR
		RELAYS
RL801	**TSEH8007**	**RELAY**
		RESISTORS
R002	ERDS2TJ182	RES,C 1.8K–J–1/4
R003	ERDS2TJ562	RES,C 5.6K–J–1/4
R004	ERDS2TJ271	RES,C 270–J–1/4
R005	ERDS2TJ101	RES,C 100–J–1/4
R006	ERDS2TJ473	RES,C 47K–J–1/4
R007	ERDS2TJ222	RES,C 2.2K–J–1/4
R008	ERDS2TJ222	RES,C 2.2K–J–1/4
R009	ERDS2TJ222	RES,C 2.2K–J–1/4
R010	ERDS2TJ182	RES,C 1.8K–J–1/4
R011	ERDS2TJ681	RES,C 680–J–1/4
R012	ERDS2TJ681	RES,C 680–J–1/4
R013	ERDS2TJ681	RES,C 680–J–1/4
R015	ERDS2TJ392	RES,C 3.9K–J–1/4
R016	ERDS2TJ472	RES,C 4.7K–J–1/4
R017	ERDS2TJ472	RES,C 4.7K–J–1/4
R018	ERDS2TJ683	RES,C 68K–J–1/4
R019	ERDS2TJ823	RES,C 82K–J–1/4
R020	ERDS2TJ474	RES,C 470K–J–1/4
R021	ERDS2TJ101	RES,C 100–J–1/4
R022	ERDS2TJ101	RES,C 100–J–1/4
R023	ERDS2TJ471	RES,C 470–J–1/4
R024	ERDS2TJ222	RES,C 2.2K–J–1/4
R025	ERDS2TJ272	RES,C 2.7K–J–1/4
R026	ERDS2TJ472	RES,C 4.7K–J–1/4
R027	ERDS2TJ682	RES,C 6.8K–J–1/4
R028	ERDS2TJ683	RES,C 68K–J–1/4
R029	ERDS2TJ102	RES,C 1K–J–1/4
R030	ER0S2CKF1002	RES,M 10K–F–1/4
R031	ERDS2TJ121	RES,C 120–J–1/4
R032	ERDS2TJ820	RES,C 82–J–1/4
R033	ERDS2TJ272	RES,C 2.7K–J–1/4
R034	ERDS2TJ222	RES,C 2.2K–J–1/4
R035	ERDS2TJ332	RES,C 3.3K–J–1/4
R036	ERDS2TJ562	RES,C 5.6K–J–1/4
R037	ERDS2TJ103	RES,C 10K–J–1/4
R038	ERDS2TJ273	RES,C 27K–J–1/4
R039	ERDS2TJ102	RES,C 1K–J–1/4
R040	ERDS2TJ102	RES,C 1K–J–1/4
R041	ERDS2TJ122	RES,C 1.2K–J–1/4
R042	ERDS2TJ391	RES,C 390–J–1/4
R043	ERDS2TJ103	RES,C 10K–J–1/4
R044	ERDS2TJ334	RES,C 330K–J–1/4

REPLACEMENT PARTS LIST

(27" Models)

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REF. NO.	PART NO.	DESCRIPTION
R045	ERDS2TJ684	RES,C 680K–J–1/4
R046	ERDS2TJ332	RES,C 3.3K–J–1/4
R047	ERDS2TJ223	RES,C 22K–J–1/4
R048	ERDS2TJ392	RES,C 3.9K–J–1/4
R049	ERDS2TJ102	RES,C 1K–J–1/4
R051	ERDS2TJ103	RES,C 10K–J–1/4
R054	ERDS2TJ102	RES,C 1K–J–1/4
R055	ERDS2TJ101	RES,C 100–J–1/4
R056	ERDS2TJ101	RES,C 100–J–1/4
R062	ERDS2TJ103	RES,C 10K–J–1/4
R073	ERDS2TJ103	RES,C 10K–J–1/4
R090	ERDS2TJ103	RES,C 10K–J–1/4
		CT–2757SU CT–2757SCU
		SP2718U SP2718UU
		SP2718CU
R091	ERDS2TJ103	RES,C 10K–J–1/4
		CT–27G11U CT–27G11UU
		CT–27G11CU CT–27S4CU
R101	ERDS2TJ683	RES,C 68K–J–1/4
R103	ERDS2TJ183	RES,C 18K–J–1/4
R104	ERDS2TJ121	RES,C 120–J–1/4
R105	ERDS2TJ102	RES,C 1K–J–1/4
R106	EVND2AA03B14	CONTROL 10K
R107	ERDS2TJ222	RES,C 2.2K–J–1/4
R111	ERDS2TJ361	RES,C 360–J–1/4
R112	ERDS2TJ561	RES,C 560–J–1/4
R152	ERDS2TJ154	RES,C 150K–J–1/4
R201	ERDS2TJ221	RES,C 220–J–1/4
R202	ERDS2TJ682	RES,C 6.8K–J–1/4
R203	ERDS2TJ392	RES,C 3.9K–J–1/4
R204	ERDS2TJ472	RES,C 4.7K–J–1/4
R304	ERDS2TJ274	RES,C 270K–J–1/4
R305	ERDS2TJ102	RES,C 1K–J–1/4
R306	ERDS2TJ102	RES,C 1K–J–1/4
R310	ERDS2TJ122	RES,C 1.2K–J–1/4
R311	ERDS2TJ681	RES,C 680–J–1/4
R312	ERDS2TJ222	RES,C 2.2K–J–1/4
R313	ERDS2TJ392	RES,C 3.9K–J–1/4
R316	ERDS2TJ682	RES,C 6.8K–J–1/4
R323	ERDS2TJ101	RES,C 100–J–1/4
R326	ERDS2TJ471	RES,C 470–J–1/4
R328	ERDS2TJ332	RES,C 3.3K–J–1/4
R351	ERG2ANJ123	RES,M 12K–J–2W
R352	ERG2ANJ123	RES,M 12K–J–2W
R353	ERG2ANJ123	RES,M 12K–J–2W
R354	ERDS1TJ272	RES,C 2.7K–J–1/2
R355	ERDS1TJ272	RES,C 2.7K–J–1/2
R356	ERDS1TJ272	RES,C 2.7K–J–1/2
R357	ERDS2TJ271	RES,C 270–J–1/4
R358	ERDS2TJ271	RES,C 270–J–1/4
R359	ERDS2TJ271	RES,C 270–J–1/4
R360	ERDS2TJ152	RES,C 1.5K–J–1/4
R361	ERDS2TJ152	RES,C 1.5K–J–1/4
R362	ERDS2TJ152	RES,C 1.5K–J–1/4
R363	ERDS2TJ101	RES,C 100–J–1/4
R364	ERDS2TJ101	RES,C 100–J–1/4

REF. NO.	PART NO.	DESCRIPTION
R365	ERDS2TJ101	RES,C 100–J–1/4
R401	ERDS2TJ224	RES,C 220K–J–1/4
R402	ERDS2TJ561	RES,C 560–J–1/4
R404	ERDS2TJ221	RES,C 220–J–1/4
R451	ERDS2TJ471	RES,C 470–J–1/4
R452	ERDS2TJ273	RES,C 27K–J–1/4
R453	EVND2AA03B34	CONTROL 30K
R454	ERDS1FJ3R3	RES,C 3.3–J–1/2
R455	ERDS2TJ393	RES,C 39K–J–1/4
R456	ERDS2TJ393	RES,C 39K–J–1/4
R457	ERDS2TJ202	RES,C 2K–J–1/4
R458	ERDS2TJ223	RES,C 22K–J–1/4
R459	ERDS2TJ102	RES,C 1K–J–1/4
R460	ERDS2TJ103	RES,C 10K–J–1/4
R461	ERDS2TJ102	RES,C 1K–J–1/4
R462	ERDS2TJ473	RES,C 47K–J–1/4
R463	ERDS2TJ224	RES,C 220K–J–1/4
R464	ERDS2TJ124	RES,C 120K–J–1/4
R465	ERDS1FJ1R5	RES,C 1.5–J–1/2
R466	ERDS2TJ101	RES,C 100–J–1/4
R467	ERDS2TJ102	RES,C 1K–J–1/4
R469	ERDS1FJ3R3	RES,C 3.3–J–1/2
R470	ERDS2TJ153	RES,C 15K–J–1/4
R471	ERDS2TJ271	RES,C 270–J–1/4
R501	ERDS2TJ102	RES,C 1K–J–1/4
R502	ERDS2TJ222	RES,C 2.2K–J–1/4
R503	ERDS2TJ182	RES,C 1.8K–J–1/4
R504	ERDS2TJ561	RES,C 560–J–1/4
R505	ERDS2TJ682	RES,C 6.8K–J–1/4
R506	ERDS2TJ100	RES,C 10–J–1/4
R507	ERDS2TJ562	RES,C 5.6K–J–1/4
R508	ERDS2TJ822	RES,C 8.2K–J–1/4
R509	ERG1ANJ392	RES,M 3.9K–J–1W
R510	ERG3ANJ821	RES,M 820–J–3W
R511	ERG3ANJ102	RES,M 1K–J–3W
R514	ERDS2TJ391	RES,C 390–J–1/4
R515	ERDS2TJ224	RES,C 220K–J–1/4
R531	ERD25FJ470	RES,C 47–J–1/4
R532	**ER0S2CKF5362**	**RES,M 53.6K–F–1/4**
R533	**ER0S2CKF7151**	**RES,M 7.15K–F–1/4**
R534	ERDS2TJ684	RES,C 680K–J–1/4
R538	ERDS2TJ821	RES,C 820–J–1/4
R539	ERDS2TJ681	RES,C 680–J–1/4
R551	**ERDS1FJ1R0**	**RES,C 1.0–J–1/2**
R552	**ERDS1FJ1R0**	**RES,C 1.0–J–1/2**
R553	**ERDS1FJ1R0**	**RES,C 1.0–J–1/2**
R554	ERG2ANJ620	RES,M 62–J–2W
R555	ERDS2TJ221	RES,C 220–J–1/4
R556	ERDS2TJ272	RES,C 2.7K–J–1/4
R557	ERDS2TJ103	RES,C 10K–J–1/4
R558	**ERQ1CJ1R8**	**RES,F 1.8–J–1W**
R560	ERG2ANJ182	RES,M 1.8K–J–2W
R561	ERG2ANJ102	RES,M 1K–J–2W
R562	**ERG3ANJ820**	**RES,M 82–J–3W**
R563	ERDS2TJ623	RES,C 62K–J–1/4
R564	ERDS2TJ104	RES,C 100K–J–1/4

REPLACEMENT PARTS LIST

(27" Models)

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REF. NO.	PART NO.	DESCRIPTION
R565	ERDS2TJ103	RES,C 10K-J-1/4
R566	ERG2ANJ683	RES,M 68K-J-2W
R601	ERDS2TJ332	RES,C 3.3K-J-1/4
R602	ERDS2TJ182	RES,C 1.8K-J-1/4
R604	ERDS2TJ331	RES,C 330-J-1/4
R605	ERDS2TJ331	RES,C 330-J-1/4
R606	ERDS2TJ331	RES,C 330-J-1/4
R614	ERDS2TJ222	RES,C 2.2K-J-1/4
R615	ERDS2TJ222	RES,C 2.2K-J-1/4
R616	ERDS2TJ222	RES,C 2.2K-J-1/4
R617	ERDS2TJ222	RES,C 2.2K-J-1/4
R619	ERDS2TJ471	RES,C 470-J-1/4
R801	**ERF10ZK1R5**	**RES,W 1.5-K-10W**
R802	ERDS2TJ334	RES,C 330K-J-1/4
R803	ERDS1FJ123	RES,C 12K-J-1/2
R804	ERQ14AJ470	RES,F 47-J-1/4
R805	ERDS1TJ393	RES,C 39K-J-1/2
R806	**ERX1SJ3R9**	**RES,M 3.9-J-1W**
R807	**ERX1SJ3R9**	**RES,M 3.9-J-1W**
R811	ERW12PK4R7	RES,W 4.7-K-1/2W
R815	**ERC12ZGM825**	**RES,S 8.2MEG-M-1/2**
R818	**ERF20ZJ221**	**RES,W 220-J-20W**
R819	**ERF20ZJ221**	**RES,W 220-J-20W**
R1051	ERDS2TJ102	RES,C 1K-J-1/4
R2201	ERDS2TJ472	RES,C 4.7K-J-1/4
R2202	ERDS2TJ153	RES,C 15K-J-1/4
R2203	ERDS2TJ104	RES,C 100K-J-1/4
R2204	ERDS2TJ473	RES,C 47K-J-1/4
R2205	ERDS2TJ154	RES,C 150K-J-1/4
R2206	ERDS2TJ102	RES,C 1K-J-1/4
R2207	ERDS2TJ102	RES,C 1K-J-1/4
R2208	ER0S2CKF9102	RES,M 91K-F-1/4
R2212	ERDS2TJ682	RES,C 6.8K-J-1/4
R2219	ERDS2TJ564	RES,C 560K-J-1/4
R2220	ERDS2TJ101	RES,C 100-J-1/4
R2221	ERDS2TJ101	RES,C 100-J-1/4
R2301	ERQ2CJP100	RES,F 10-J-2W
R2304	ERDS2TJ223	RES,C 22K-J-1/4
R2305	ERDS2TJ102	RES,C 1K-J-1/4
R2306	ERD25FJ4R7	RES,C 4.7-J-1/4
R2307	ERDS2TJ681	RES,C 680-J-1/4
R2309	ERDS2TJ103	RES,C 10K-J-1/4
		CT-27G11U CT-27G11UU
		CT-27G11CU CT-2757SU
		CT-2757SCU CT-27S4CU
R2310	ERDS2TJ122	RES,C 1.2K-J-1/4
		CT-27G11U CT-27G11UU
		CT-27G11CU CT-2757SU
		CT-2757SCU CT-27S4CU
R2353	ERDS2TJ223	RES,C 22K-J-1/4
R2354	ERDS2TJ102	RES,C 1K-J-1/4
R2355	ERD25FJ4R7	RES,C 4.7-J-1/4
R2356	ERDS2TJ681	RES,C 680-J-1/4
R2357	ERDS2TJ103	RES,C 10K-J-1/4
		CT-27G11U CT-27G11UU
		CT-27G11CU CT-2757SU
R2358	ERDS2TJ122	RES,C 1.2K-J-1/4
		CT-27G11U CT-27G11UU
		CT-27G11CU CT-2757SU
		CT-2757SCU CT-27S4CU
R2451	ERDS2TJ225	RES,C 2.2MEG-J-1/4
		CT-27G11U CT-27G11UU
		CT-27G11CU CT-27S4CU
R2455	ERDS2TJ243	RES,C 24K-J-1/4
		CT-27G11U CT-27G11UU
		CT-27G11CU CT-27S4CU
R2456	ERDS2TJ103	RES,C 10K-J-1/4
		CT-27G11U CT-27G11UU
		CT-27G11CU CT-27S4CU
R3001	ERDS2TJ103	RES,C 10K-J-1/4
R3002	ERDS2TJ223	RES,C 22K-J-1/4
R3003	ERDS2TJ473	RES,C 47K-J-1/4
R3004	ERDS2TJ104	RES,C 100K-J-1/4
R3006	ERDS2TJ102	RES,C 1K-J-1/4
R3007	ERDS2TJ334	RES,C 330K-J-1/4
R3008	ERDS2TJ334	RES,C 330K-J-1/4
R3009	ERDS2TJ102	RES,C 1K-J-1/4
R3016	ERDS2TJ750	RES,C 75-J-1/4
R3017	ERDS2TJ221	RES,C 220-J-1/4
R3018	ERDS2TJ391	RES,C 390-J-1/4
R3019	ERDS2TJ101	RES,C 100-J-1/4
		SWITCHES
S001	EVQQKH06K	SWITCH
S002	EVQQKH06K	SWITCH
S003	EVQQKH06K	SWITCH
S004	EVQQKH06K	SWITCH
S005	EVQQKH06K	SWITCH
S006	EVQQKH06K	SWITCH
S007	EVQQKH06K	SWITCH
S2301	ESB621283	SWITCH, CATV
		CT-27G11U CT-27G11UU
		CT-27G11CU CT-2757SU
		CT-2757SCU CT-27S4CU
		TRANSFORMERS
T001	**TLP16297**	**TRANSFORMER, POWER SUPPLY**
T501	**TLH15452**	**TRANSFORMER, HORIZONTAL DRIVER**
T502	**ETE19Z30AY**	**TRANSFORMER, HORIZONTAL COUPLING**
T551	**TLF15646F**	**TRANSFORMER, FLYBACK**
		CRYSTALS/FILTERS
X001	TSS2080MX	CRYSTAL, 12 MHZ CLOCK
X101	EFCKM1963M	CERAMIC FILTER
X102	EFCWS4504AB	FILTER, CERAP
X201	EFCS4R5MS4W	FILTER 4.5MHZ BANDPASS
X501	EF0A503KS41	CRYSTAL, 503KHZ OSCILLATOR
X601	TS816M32	CRYSTAL 3.58MHZ OSCILLATOR
		OTHERS
TNR001	ENV56D01G3	TUNER
RM001	RPM-637CBRS	RECEIVER, REMOTE CONTROL CT-27G11CU

REPLACEMENT PARTS LIST

(27" Models)

Important Safety Notice: Components printed in **BOLD TYPE** have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

REF. NO.	PART NO.	DESCRIPTION
IC1051	RPM-637CBRS1	RECEIVER, REMOTE CONTROL SP2718U SP2718UU SP2718CU
IC1051	RPM-637CBRS2	RECEIVER, REMOTE CONTROL CT-27G11U CT-27G11UU CT-2757SU CT-2757SCU CT-27S4CU
M001	EASG12D531C2	SPEAKER, 2" X 5" 16 OHM CT-27G11CU
M002	EUR501344	TRANSMITTER, REMOTE CONTROL SP2718U SP2718UU SP2718CU
M003	EUR511000A	TRANSMITTER, REMOTE CONTROL CT-27G11U CT-27G11UU CT-27G11CU CT-2757SU CT-2757SCU CT-27S4CU
M004	UR51CS810	BATTERY COVER, REMOTE CONTROL
M005	**M68LGL061X**	**CRT 27"**
M006	TBM17454-2	NAMEPLATE: QUASAR SP2718U SP2718UU SP2718CU
M007	TBM2A10141	BADGE, PANASONIC CT-27G11U CT-27G11UU CT-27G11CU CT-2757SU CT-2757SCU CT-27S4CU
M008	TBM2A52511-1	NAMEPLATE, MODEL SP2718CU
M009	TBM2A52512-1	NAMEPLATE, MODEL CT-27G11CU CT-2757SCU CT-27S4CU
M010	TBX1886601	PUSHBUTTON, SPEAKER CT-27G11U CT-27G11UU CT-27G11CU CT-2757SU CT-2757SCU CT-27S4CU SP2718CU
M011	TBX2A50251G	PUSHBUTTON, 7 KEY CT-27G11CU
M012	TBX2A50261AG	PUSHBUTTON, 7 KEY CT-27G11U CT-27G11UU CT-27S4CU
M013	TBX2A50271G	PUSHBUTTON, 7 KEY SP2718U SP2718UU SP2718CU
M014	TBX2A50281G	PUSHBUTTON, 7 KEY CT-2757SU CT-2757SCU
M015	TES2A20312	SPRING, DAG GROUND
M016	**TJS1A5050**	**CRT SOCKET**
M017	TXFKY0296SER	ASSY,CABINET FRONT SP2718U & SP2718UU
M018	TXFKU0396SER	ASSY,CABINET BACK SP2718U & SP2718UU
M019	TXFKY2096SER	ASSY,CABINET FRONT SP2718CU
M020	TXFKU0496SER	ASSY,CABINET BACK SP2718CU
M021	TXFKY3396SER	ASSY,CABINET FRONT CT-2757SCU
M022	TXFKU2396SER	ASSY,CABINET BACK CT-2757SCU
M023	TXFKY3496SER	ASSY,CABINET FRONT CT-2757SU
M024	TXFKU2496SER	ASSY,CABINET BACK CT-2757SU
M025	TXFKY0696SER	ASSY,CABINET FRONT CT-27G11CU
M026	TXFKU0696SER	ASSY,CABINET BACK CT-27G11CU
M027	TXFKY0596SER	ASSY,CABINET FRONT CT-27S4CU
M028	TXFKU0596SER	ASSY,CABINET BACK CT-27S4CU
M029	TXFKY0196SER	ASSY,CABINET FRONT CT-27G11U/UU
M030	TXFKU0196SER	ASSY,CABINET BACK CT-27G11U/UU
M031	TKP2A11221	PANEL, SMOKE CT-27G11CU
M032	TKP2A90471	PANEL, SMOKE CT-27G11U CT-27G11UU CT-2757SU CT-2757SCU CT-27S4CU SP2718U SP2718UU SP2718CU
M033	TKX2A3761	GUIDE, IR SP2718U SP2718UU SP2718CU
M034	TKX2A3762	GUIDE, IR CT-27G11U CT-27G11UU CT-2757SU CT-2757SCU CT-27S4CU
M035	TLC2047-2	MAGNET,RINGS:PURITY & STATIC CONV.
M036	TQB2AA0003	MANUAL, OWNER'S CT-27G11U CT-27G11UU
M037	TQB2AA0004	MANUAL, OWNER'S CT-27G11CU CT-27S4CU
M038	TQB2AA0014	MANUAL, OWNER'S CT-2757SU
M039	TQB2AA0015	MANUAL, OWNER'S CT-2757SCU
M040	TQB2AA0017	MANUAL, OWNER'S SP2718CU
M041	TQB2AA0018	MANUAL, OWNER'S SP2718U SP2718UU
M042	**TSX5140X**	**AC LINE CORD**
M043	TXF3A01ADR	ASSY, DAG GROUND
M044	0FMK014ZZ	CONVERGENCE CORRECTOR STRIP CT-27G11U CT-27G11UU CT-27G11CU CT-2757SU CT-2757SCU CT-27S4CU SP2718U SP2718UU
JK3001	TJB2A9063A	BRKT. A/V VAO A/V IN CT-27G11U CT-27G11UU CT-27G11CU CT-2757SU

REPLACEMENT PARTS LIST

(27" Models)

Important Safety Notice: Components printed in **BOLD TYPE** have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

REF. NO.	PART NO.	DESCRIPTION
JK3001	TJB2A9064A	CT-2757SCU CT-27S4CU BRACKET, A/V VAO A/V IN SP2718U SP2718UU SP2718CU

REF. NO.	PART NO.	DESCRIPTION
M045	T8A258	SILICONE GREASE – HEAT SINK COMPOUND

A B C D

1 2 3

5V REGULATOR

STANDBY 12V

IC001
MN1873265T6F

IC551⚠
AN78M09LB

IC101
AN5163K

IC552
AN78L12

IC002
24LC02BIP
I²C
EEPROM

IC2301
⚠AN5265

POWER SWITCH
Q003
2SC1685QRS
JC501PQ

Q002 2SC1685QRS JC501PQ
Q004 2SA564AQRS JA101PQ
Q006 2SC1685QRS JC501PQ
Q001 2SA564AQRS JA101PQ
Q306 2SC1685QRS JC501PQ
Q307 2SC1685QRS JC501PQ
Q308 2SA564AQRS JA101PQ
Q3002 2SC1685QRS JC501PQ

D003 MTZJ4.7B MA4047M
D005 MA165
D532 MTZM6.2A MA4062LTV
D501 MTZJ8.2B MA4082L
D007 MA165
D015 SEL1410G
D3001 MA165
D3002 MTZJ11C MA4110M
D002 MA167
D001 ERA15-01
D006 MA165

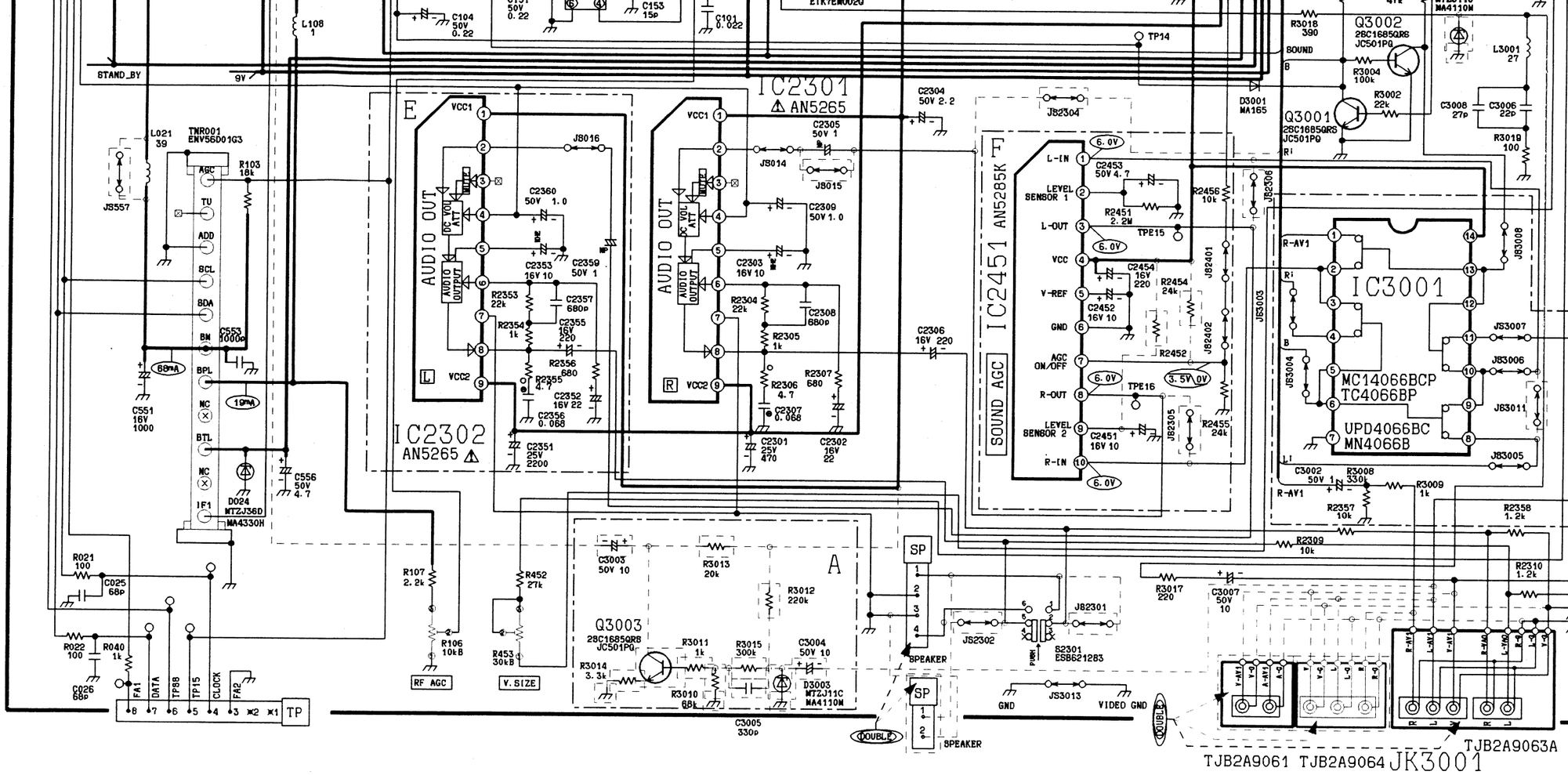
IC1051 PIC-12042RB
IC1051 RPM-637CBRS1

X001 TSS2080MX
X501 EFOA503K541
X601 T8816M52
X102 EFCWS4504AB E1Y7EN053B
X201 EFCS4R5M34W
X101 EFCKM1963M

L001 EXCELSA35
L005 EXCELSA39
L007 EXCELSA24
L008 EXCELSA24
L101 15
L103 1.5
L102 1.5
L105
L201 EQB7EN053B
L151 E1Y7EN041B
L108 1
L004 2.2
L003 2.2
L104 27
L601 10
L602 33
L3001 27

LC301 E1KYEM002Q

A11
A51
TP47R TP47G TP47B
TP2 TP12 TP14 TP16 TP21 TP81 TP82
TPA1 TPA2 TPA10
J315 J544 J8001 J8005 J8007 J8016 J8017 JS006 JS2204 JS2205 JS2206 JS2207 JS3009 JS3010
DOUBLE
BTAND_BY
RESET



Schematic Notes

1. Resistors are carbon 1/4W unless noted otherwise.
2. Capacitors are ceramic 50V unless noted otherwise.
3. Coil value noted is inductance in μH.
4. Test point indicated by ●. Test point but no pin ⚲.
5. Components indicated with ⚠ are critical parts and replacement should be made with manufacture specified replacement parts only.
6. **— (BOLD LINE)** Indicates the route of B+ supply.
7. The schematic diagrams are current at the time of printing and are subject to change without notice.
8. Ground symbol ⏚ indicates **HOT GROUND CONNECTION;** ⏚ indicates COLD GROUND.

NOTE: All other component symbols are used for engineering design purposes.

Waveform Measurements

1. ③ indicates waveform measurement. (Measurement can be taken at the best accessible location in common to the indicated point.)
2. Taken with a NTSC signal generator connected to the antenna terminal. (NTSC color bar pattern of 8 bars of EIA colors, 100 IRE white and 7.5 IRE black.)
3. Customer Controls (Picture/Audio Menu) are set to Normalize. Volume is set to "MIN".
4. All video and color waveforms are taken with a wideband scope and a probe with low capacitance (10 to 1). Shape and peak amplitudes may vary depending on the type of Oscilloscope used and its settings.
5. Ground symbol ⏚ shown on waveform number indicates (Hot) ground lead connection of the Oscilloscope.

CAUTION: Incorrect ground connection of the test equipment will result in erroneous readings.

The waveforms are taken in the order of circuit flow through the various sections as follows:

VIDEO – Waveforms 1~3
COLOR – Waveforms 4~8
VERTICAL – Waveforms 9~12
HORIZONTAL – Waveforms 13~16
CRT DRIVE – Waveforms 17 & 18
POWER SUPPLY – Waveforms 19~21

A–Board Schematic

C D E F

IC001
MN1873265T6F

IC1051
PIC-120428RB

IC1051
RPM-637CBR81

IC002
24LC02BIP
I²C
EEPROM

IC2201
AN5818NK
MTS

IC451
LA7836-TV
V. OUT

IC552
AN78L12

Q001
2SA564AQRS
JA101PQ

Q306
2SC1685QRS
JC501PQ

Q307
2SC1685QRS
JC501PQ

Q308
2SA564AQRS
JA101PQ

POWER
SWITCH
Q003
2SC1685QRS
JC501PQ

Q3002
2SC1685QRS
JC501PQ

Q005
2SC1685QRS
JC501PQ

Q501
2SC4212HLB

Q551
BU2508DF

Q452
2SC1685QRS
JC501PQ

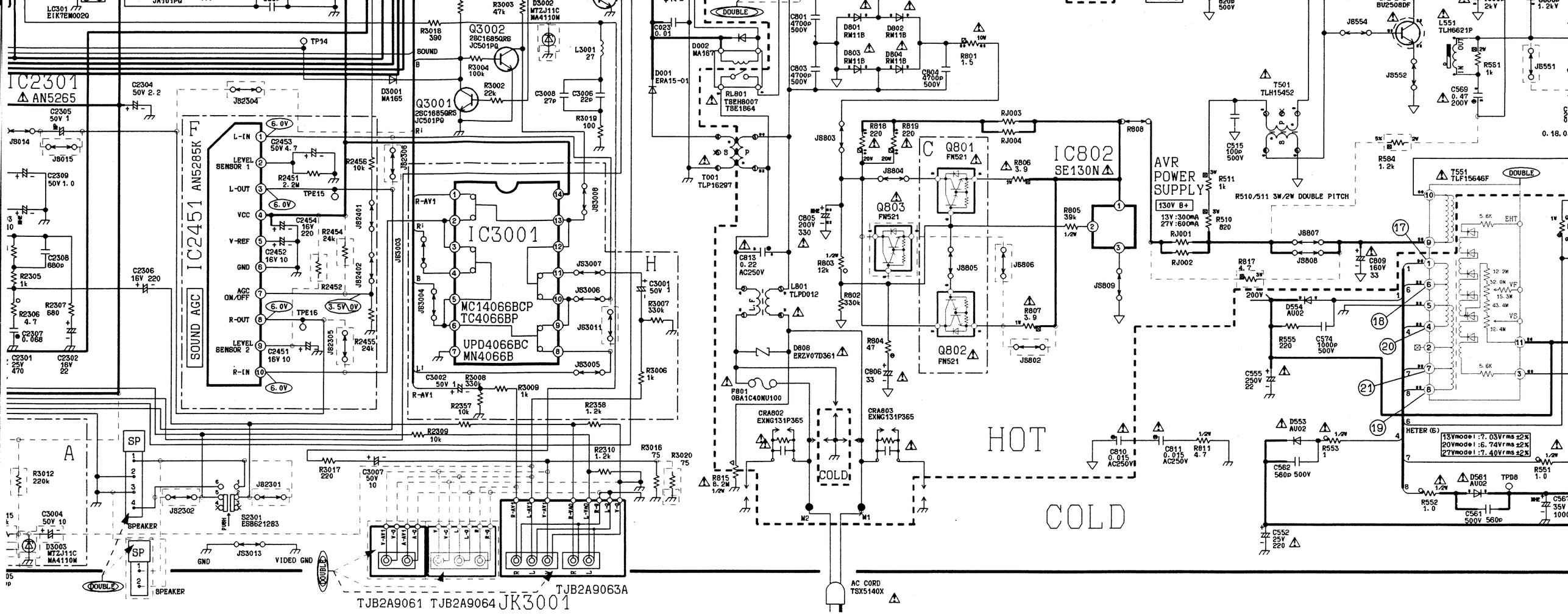
H. PULSE BUFFER

COLD

HOT

G

TP87
ACTION
CH UP
CH DWN
VOL UP
VOL DWN
POWER
KEY_IN
TV/VID
200V
5V
12V
9V
18V
STANDBY 12V
AUDIO B+
3.9V
DOUBLE
1W/2W
163mA
DY TLY15525F



Waveform Measurements

1. ③ indicates waveform measurement. (Measurement can be taken at the best accessible location in common to the indicated point.)
2. Taken with a NTSC signal generator connected to the antenna terminal. (NTSC color bar pattern of 8 bars of EIA colors, 100 IRE white and 7.5 IRE black.)
3. Customer Controls (Picture/Audio Menu) are set to Normalize. Volume is set to "MIN".
4. All video and color waveforms are taken with a wideband scope and a probe with low capacitance (10 to 1). Shape and peak amplitudes may vary depending on the type of Oscilloscope used and its settings.
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The waveforms are taken in the order of circuit flow through the various sections as follows:

VIDEO – Waveforms 1~3
COLOR – Waveforms 4~8
VERTICAL – Waveforms 9~12
HORIZONTAL – Waveforms 13~16
CRT DRIVE – Waveforms 17 & 18
POWER SUPPLY – Waveforms 19~21

IMPORTANT SAFETY NOTICE

THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES THAT ARE IMPORTANT FOR PROTECTION FROM X–RADIATION, FIRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURERS SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS DESIGNATED WITH A ⚠ IN THE SCHEMATIC.

Voltage Measurements

1. Voltage measurement:
   – AC input to the Receiver is 120V. NTSC generator is connected to the antenna of the Receiver. (Color bar pattern of 100IRE white and 7.5 IRE black.)
   – All Picture and Audio adjustments are set to Normalize.
   TV ANT/CABLE – (Set–Up Menu) in TV/ANT Mode
   Volume – Min
   TV/Video SW – TV position
   Audio Mode – Stereo
   – Voltage readings are nominal and may vary ±10% on active devices. Some voltage reading will vary with signal strength and picture content.
   – Supply voltages are all nominal.
2. Ground symbol ⏚ indicates ground lead connection of meter.
   Caution: Incorrect ground connection will result in erroneous readings.

Note: Stereo Models

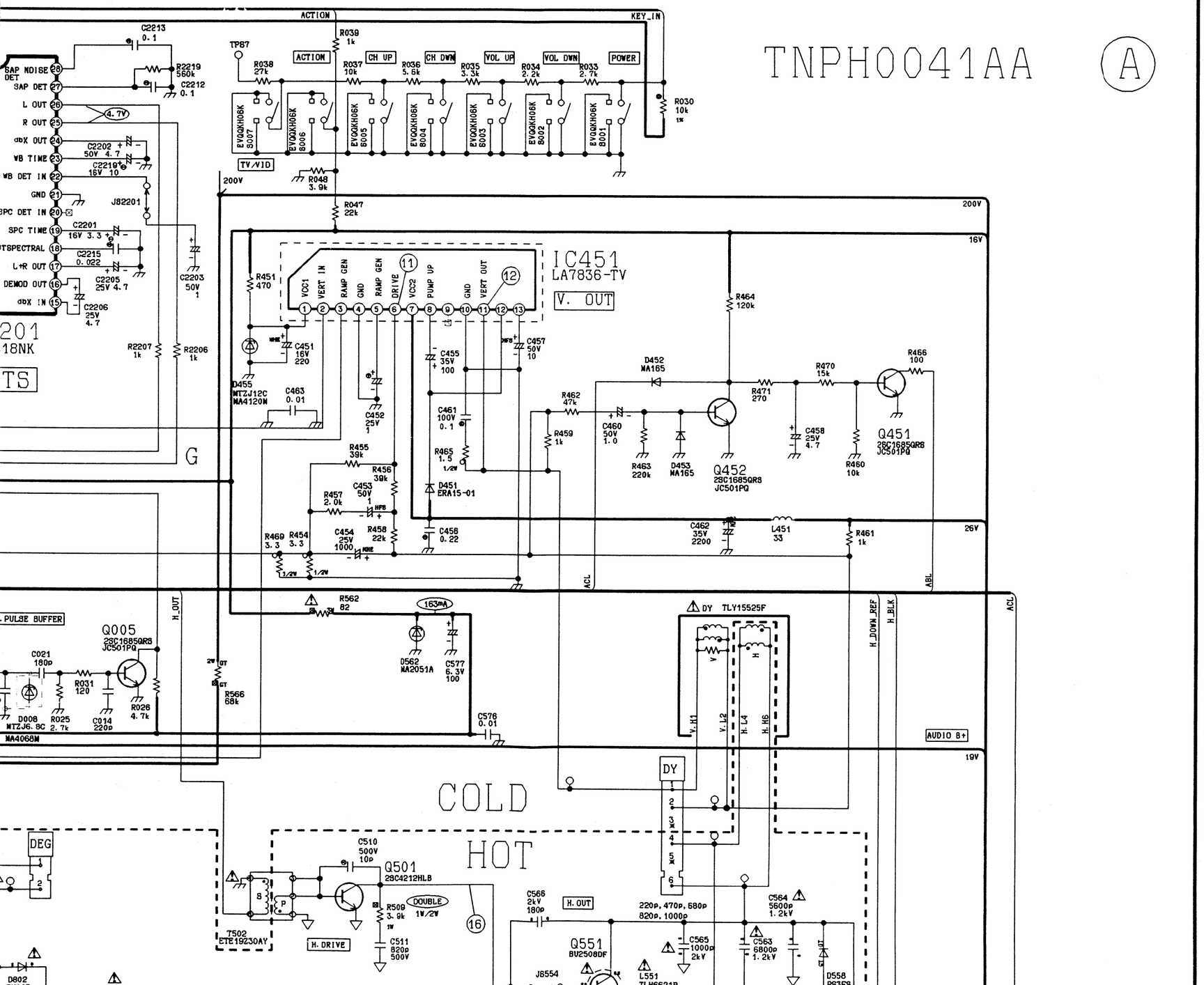
The Functions listed below are activated (Pin 5 and 6) of MPU IC001. Press and to measure voltages.

FUNCTION	PIN 5
POWER	0V~0.6V
VOL ◀	0.7V~1.2V
VOL ▶	1.3V~1.8V
CH ▼	1.9V~2.4V
CH ▲	2.6V~3.0V
TV/VIDEO	3.2V~3.7V
ACTION	4.6V~5.0V

ematic

E F G H

TNPH0041AA (A)



Waveforms – A–Board

1. 1.3V p–p [20µs]
IC101 PIN 34 (DET OUT)
Schem. Loc. B–3

8. 3.7V p–p [20µs]
A11 PIN 3 (B)
Schem. Loc. A–3

15. 3.1V p–p [20µs]
IC101 PIN 50 (H OUT)
Schem. Loc. B–2

2. 0.8V p–p [20µs]
TP12
Schem. Loc. C–2

9. 1.2V p–p [20µs]
IC101 PIN 43 (SYNC)
Schem. Loc. B–2

16. 186V p–p [20µs]
Q501 collector (H DRIVE)
Schem. Loc. F–3

3. 0.3V p–p [20µs]
IC101 PIN 39 (Y IN)
Schem. Loc. B–2

10. 4.5V p–p [5ms]
IC101 PIN 52 (VERT OUT)
Schem. Loc. B–2

17. 262V p–p [20µs]
T551 PIN 1
Schem. Loc. F–4

4. 0.4V p–p [20µs]
IC101 PIN 42 (C IN)
Schem. Loc. B–2

11. 2.4V p–p [5ms]
IC451 PIN 6 (DRIVE)
Schem. Loc. F–2

18. 24V p–p [20µs]
T551 PIN 6
Schem. Loc. F–4

5. 0.4V p–p [0.5µs]
IC101 PIN 13 (VCO)
Schem. Loc. B–2

12. 51.2V p–p [5ms]
IC451 PIN 11 (VERT OUT)
Schem. Loc. F–2

19. 239V p–p [20µs]
T551 PIN 8
Schem. Loc. F–4

6. 4.2V p–p [20µs]
A11 PIN 1 (R)
Schem. Loc. A–3

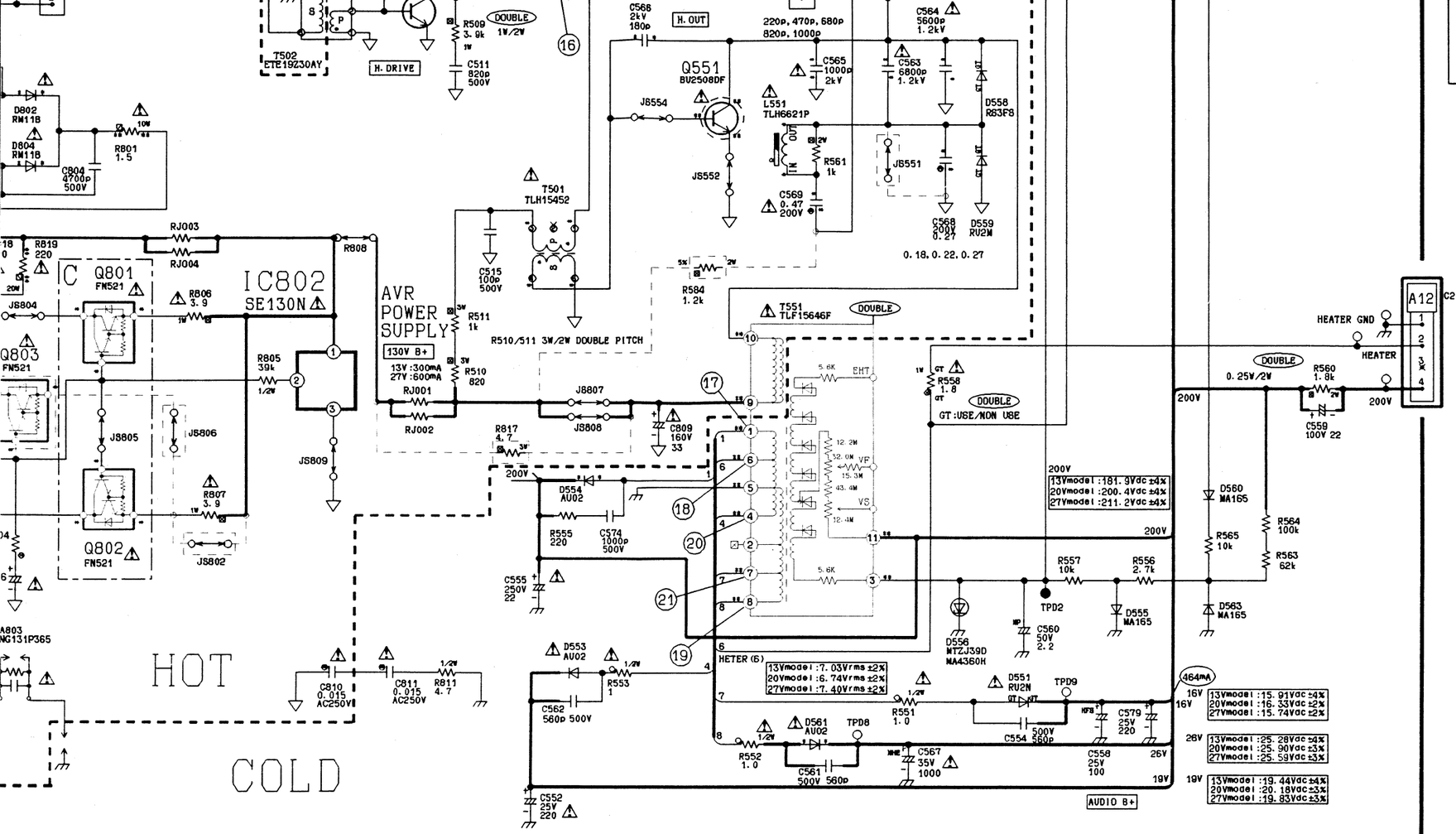
13. 1.7V p–p [20µs]
IC101 PIN 46 (H AFC)
Schem. Loc. B–2

20. 187V p–p [20µs]
T551 PIN 4
Schem. Loc. F–4

7. 3.5V p–p [20µs]
A11 PIN 2 (G)
Schem. Loc. A–3

14. 0.7V p–p [2µs]
IC101 PIN 48 (H OSC)
Schem. Loc. B–2

21. 160V p–p [20µs]
T551 PIN 7
Schem. Loc. F–4



7 3.5V p–p [20µs]
A11 PIN 2 (G)
Schem. Loc. A–3

14 0.7V p–p [2µs]
IC101 PIN 48 (H OSC)
Schem. Loc. B–2

21 160V p–p [20µs]
T551 PIN 7
Schem. Loc. F–4

Tuner Voltage Chart

Enable, Data, and Clock have no DC readings. They are digital signals from the MPU.

NOTE: Voltage at the 30V test pin varies with channel selection. Refer to chart for sample tuning voltages of TV/CATV(CABLE) channels as shown.

Voltage Reading Are Nominal And May Vary ± 15%

– VHF –	
Ch. 02	4.0V
Ch. 06	8.2V
Ch. 07	7.0V
Ch. 13	9.3V

– UHF –	
Ch. 14	7.7V
Ch. 69	24V

– CABLE –					
1st Band		2nd Band		3rd Band	
Ch. 1	6.7V	Ch. 16	4.5V	Ch. 47	3.7V
Ch. 15	24.7V	Ch. 46	2.70V	Ch. 94	14.9V
Ch. 95	9.8V			Ch. 100	15.1V
Ch. 99	17.5V			Ch. 125	24.0V

MICROPROCESSOR PROGRAMMING FOR BAND TUNING/SWITCHING

54MHz ◄► 130MHz ◄► 360MHz ◄► 806MHz

	FIRST TUNING BAND	SECOND TUNING BAND	THIRD TUNING BAND
VHF	02~06	07~13	
UHF			14~69
CABLE	01~06,14, 15, 95~99	07~13, 16~46	47~94, 100~125

NOTE: CABLE channel numbers as recommended by the joint EIA/NCTA Engineering Committee and published as EIA INTERIM STANDARD NO. 6 – CABLE TELEVISION CHANNEL IDENTIFICATION PLAN – MAY 1983.

ORTANT SAFETY NOTICE

EMATIC DIAGRAM INCORPORATES SPECIAL THAT ARE IMPORTANT FOR PROTECTION FROM ON, FIRE AND ELECTRICAL SHOCK HAZARDS. RVICING IT IS ESSENTIAL THAT ONLY URERS SPECIFIED PARTS BE USED FOR THE OMPONENTS DESIGNATED WITH A ⚠ IN THE

age Measurements

iver is 120V.
nnected to the
er. (Color bar
e and 7.5 IRE

adjustments

et–Up Menu)

sition

Audio Mode – Stereo
– Voltage readings are nominal and may vary ±10% on active devices. Some voltage reading will vary with signal strength and picture content.
– Supply voltages are all nominal.

2. Ground symbol ⏚ indicates ground lead connection of meter.
Caution: Incorrect ground connection will result in erroneous readings.

Note: Stereo Models

The Functions listed below are activated by a DC voltage change to DAC Inputs (Pin 5 and 6) of MPU IC001. Press and hold a function button on the Receiver to measure voltages.

FUNCTION	PIN 5	PIN 6
POWER	0V~0.6V	0V(Set "OFF")
		0.7V~3.0V (Set "ON")
VOL ◄	0.7V~1.2V	0.7V~3.0V
VOL ►	1.3V~1.8V	0.7V~3.0V
CH ▼	1.9V~2.4V	0.7V~3.0V
CH ▲	2.6V~3.0V	0.7V~3.0V
TV/VIDEO	3.2V~3.7V	0.7V~3.0V
ACTION	4.6V~5.0V	0V~0.6V

The AUDIO MODES being broadcast are displayed on screen in red by the voltage change to DAC input (Pin 11) of MPU IC001.

AUDIO MODE BROADCAST	PIN 11
MONO	4.0V~5.0V
SAP	2.3V~4.0V
STEREO	1.0V~2.0V
STEREO & SAP	0V~0.9V

APPLICATION LIST

(TNPH0041)

CRNO	SERH0041AA	SERH0041AB	SERH0041AC	SERH0041AD	SERH0041AE	SERH0041AF	SERH0041AG	SERH0041AH	SERH0041AJ	SERH004
A51	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	TJS3A96
C014	TACCQ221T50V, H5	TACCQ221T50V, H5	TACCQ221T50V, H5	TACCQ101T50V	TACCQ101T50V	TACCQ101T50V	TACCQ101T50V	TACCQ101T50V	TACCQ101T50V	TACCQ22
C021	TACCQ181T50V, H5	TACCQ181T50V, H5	TACCQ181T50V, H5	TACCQ121T50V, H6	TACCQ121T50V	TACCQ121T50V	TACCQ121T50V	TACCQ121T50V	TACCQ121T50V	TACCQ18
C037	TACCW222T50V, H5	TACCW222T50V, H5	TACCW222T50V, H5	NIL	NIL	NIL	NIL	NIL	NIL	TACCW22
C306	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1EM4
C314	TACCW221T50V, H4	TACCW221T50V, H4	TACCW221T50V, H4	NIL	NIL	NIL	NIL	NIL	NIL	TACCW22
C453	ECEA1HFS010B	ECEA1HFS010B	ECEA1HFS010B	ECEA1HFS2R2B	ECEA1HFS2R2B	ECEA1HFS2R2B	ECEA1HFS2R2B	ECEA1HFS2R2B	ECEA1HFS2R2B	ECEA1HF
C456	ECQB1H224KF3	ECQB1H224KF3	ECQB1H224KF3	ECQB1H473KF3	ECQB1H473KF3	ECQB1H473KF3	ECQB1H473KF3	ECQB1H473KF3	ECQB1H473KF3	ECQB1H2
C457	ECEA1HFS100B	ECEA1HFS100B	ECEA1HFS100B	ECEA1HGE0R1B	ECEA1HGE0R1B	ECEA1HGE0R1B	ECEA1HGE0R1B	ECEA1HGE0R1B	ECEA1HGE0R1B	ECEA1HF
C461	ECQM1104JZW	ECQM1104JZW	ECQM1104JZW	NIL	NIL	NIL	NIL	NIL	NIL	ECQM110
C503	ECQB1H223JF3, H13	ECQB1H223JF3, H13	ECQB1H223JF3, H13	ECQB1H223KF3, H7	ECQB1H223KF3	ECQB1H223KF3	ECQB1H223KF3	ECQB1H223KF3	ECQB1H223KF3	ECQB1H2
C505	ECQB1H153KF3	ECQB1H153KF3	ECQB1H153KF3	ECQB1H103KF3	ECQB1H103KF3	ECQB1H103KF3	ECQB1H103KF3	ECQB1H103KF3	ECQB1H103KF3	ECQB1H1
C515	ECKR2H101KB5	ECKR2H101KB5	ECKR2H101KB5	ECKR2H821KB5	ECKR2H821KB5	ECKR2H821KB5	ECKR2H821KB5	ECKR2H821KB5	ECKR2H821KB5	ECKR2H1
C555	ECEA2EU220WE	ECEA2EU220WE	ECEA2EU220WE	ECEA2EU100WE	ECEA2EU100WE	ECEA2EU100WE	ECEA2EU100WE	ECEA2EU100WE	ECEA2EU100WE	ECEA2EU
C559	ECA2AM220GB	ECA2AM220GB	ECA2AM220GB	ECA1EM220GB	ECA1EM220GB	ECA1EM220GB	ECA1EM220GB	ECA1EM220GB	ECA1EM220GB	ECA2AM2
C563	TAC4R6B682JC, H2	TAC4R6B682JC, H2	TAC4R6B682JC, H2	TAC4R6B822JC	TAC4R6B822JC	TAC4R6B822JC	TAC4R6B822JC	TAC4R6B822JC	TAC4R6B822JC	TAC4R6B
C564	TAC4R6B562JC, H4	TAC4R6B562JC, H4	TAC4R6B562JC, H4	NIL	NIL	NIL	NIL	NIL	NIL	TAC4R6B
C565	ECKW3D102JBP, H5	ECKW3D102JBP, H5	ECKW3D102JBP, H5	ECKW3D102JBP, H5	ECKW3D102JBP, H5	ECKW3D102JBP, H5	ECKW3D331JBN, H11	ECKW3D102JBP, H5	ECKW3D331JBN, H11	ECKW3D1
C568	ECQM2274JZW	ECQM2274JZW	ECQM2274JZW	NIL	NIL	NIL	NIL	NIL	NIL	ECQM227
C569	TAC7A2D474JC, H5	TAC7A2D474JC, H5	TAC7A2D474JC, H5	TAC7A2D394JC	TAC7A2D394JC	TAC7A2D394JC	TAC7A2D474JC	TAC7A2D394JC	TAC7A2D394JC	TAC7A2D
C2201	AP335K016CAE, H2	AP335K016CAE, H2	AP335K016CAE, H2	AP335K016CAE, H2	AP335K016CAE, H2	AP335K016CAE, H2	AP335K016CAE, H2	NIL	NIL	AP335K0
C2202	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	NIL	NIL	ECA1HM4
C2203	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	NIL	NIL	ECA1HM0
C2204	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	NIL	NIL	ECA1HM4
C2205	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	NIL	NIL	ECA1EM4
C2206	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	ECA1EM4R7GB	NIL	NIL	ECA1EM4
C2207	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	NIL	NIL	ECA1HM4
C2208	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	ECA1HM4R7GB	NIL	NIL	ECA1HM4
C2209	ECA1CM101GB	ECA1CM101GB	ECA1CM101GB	ECA1CM101GB	ECA1CM101GB	ECA1CM101GB	ECA1CM101GB	NIL	NIL	ECA1CM1
C2210	ECA1HMR33GB	ECA1HMR33GB	ECA1HMR33GB	ECA1HMR33GB	ECA1HMR33GB	ECA1HMR33GB	ECA1HMR33GB	NIL	NIL	ECA1HMR
C2211	ECA1HM0R1GB, H13	ECA1HM0R1GB, H13	ECA1HM0R1GB, H13	ECA1HM0R1GB, H13	ECA1HM0R1GB, H13	ECA1HM0R1GB, H13	ECA1HM0R1GB, H13	NIL	NIL	ECA1HM0
C2212	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	NIL	NIL	ECQB1H1
C2213	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	ECQB1H104JF3	NIL	NIL	ECQB1H1
C2215	ECQB1H223JF3, H2	ECQB1H223JF3, H2	ECQB1H223JF3, H2	ECQB1H223JF3, H2	ECQB1H223JF3, H2	ECQB1H223JF3, H2	ECQB1H223JF3, H2	NIL	NIL	ECQB1H2
C2216	TACCW332T50V	TACCW332T50V	TACCW332T50V	TACCW332T50V	TACCW332T50V	TACCW332T50V	TACCW332T50V	NIL	NIL	TACCW33
C2219	AP106K016CAE, H2	AP106K016CAE, H2	AP106K016CAE, H2	AP106K016CAE, H2	AP106K016CAE, H2	AP106K016CAE, H2	AP106K016CAE, H2	NIL	NIL	AP106K0
C2305	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	NIL	NIL	ECEA1HN
C2308	TACCW681T50V	TACCW681T50V	TACCW681T50V	TACCW182T50V	TACCW182T50V	TACCW182T50V	TACCW182T50V	TACCW182T50V	TACCW182T50V	TACCW68
C2310	ECEA1CN100UB	ECEA1CN100UB	ECEA1CN100UB	ECEA1CN100UB	ECEA1CN100UB	ECEA1CN100UB	ECEA1CN100UB	NIL	NIL	ECEA1CN
C2311	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	NIL	NIL	ECEA1HN
C2351	ECEA1EU222E	ECEA1EU222E	ECEA1EU222E	ECEA1EU222E	ECEA1EU222E	ECEA1EU222E	ECEA1EU222E	ECA1EM102GE	ECA1EM102GE	ECEA1EU2
C2352	ECA1CM220GB	ECA1CM220GB	ECA1CM220GB	ECA1CM220GB	ECA1CM220GB	ECA1CM220GB	ECA1CM220GB	NIL	NIL	ECA1CM22
C2353	ECEA1CGE100B	ECEA1CGE100B	ECEA1CGE100B	ECEA1CGE100B	ECEA1CGE100B	ECEA1CGE100B	ECEA1CGE100B	NIL	NIL	ECEA1CGE
C2355	ECA1CM221GB	ECA1CM221GB	ECA1CM221GB	ECA1CM221GB	ECA1CM221GB	ECA1CM221GB	ECA1CM221GB	NIL	NIL	ECA1CM22
C2356	ECQB1H683KF3	ECQB1H683KF3	ECQB1H683KF3	ECQB1H683KF3	ECQB1H683KF3	ECQB1H683KF3	ECQB1H683KF3	NIL	NIL	ECQB1H68
C2357	TACCW681T50V	TACCW681T50V	TACCW681T50V	TACCW182T50V	TACCW182T50V	TACCW182T50V	TACCW182T50V	NIL	NIL	TACCW68
C2359	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	ECEA1HN010UB	NIL	NIL	ECEA1HN
C2360	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	NIL	NIL	ECA1HM0
C2451	ECA1CM100GB	NIL	NIL	ECA1CM100GB	ECA1CM100GB	NIL	NIL	NIL	NIL	ECA1CM1
C2452	ECA1CM100GB	NIL	NIL	ECA1CM100GB	ECA1CM100GB	NIL	NIL	NIL	NIL	ECA1CM1
C2453	ECA1HM4R7GB	NIL	NIL	ECA1HM4R7GB	ECA1HM4R7GB	NIL	NIL	NIL	NIL	ECA1HM4
C2454	ECA1CM221GB	NIL	NIL	ECA1CM221GB	ECA1CM221GB	NIL	NIL	NIL	NIL	ECA1CM22
C3001	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	NIL	NIL	NIL	ECA1HM0
C3002	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	ECA1HM010GB	NIL	NIL	NIL	ECA1HM0
C3003	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
C3004	NIL	NIL	NIL	NIL	NIL	NIL	NIL	ECA1HM100GB	NIL	NIL
C3005	NIL	NIL	NIL	NIL	NIL	NIL	NIL	ECA1HM100GB	NIL	NIL
C3006	TACCV220T50V, H5	TACCV220T50V, H5	TACCV220T50V, H5	TACCV220T50V, H5	TACCV220T50V, H5	TACCV220T50V, H5	NIL	TACCW331T50V	NIL	NIL
C3007	ECA1HM100GB	ECA1HM100GB	ECA1HM100GB	ECA1HM100GB	ECA1HM100GB	ECA1HM100GB	NIL	TACCV220T50V, H5	NIL	TACCV220
C3008	TACCV270T50V, H5	TACCV270T50V, H5	TACCV270T50V, H5	TACCV270T50V, H5	TACCV270T50V, H5	TACCV270T50V, H5	NIL	ECA1HM100GB	NIL	ECA1HM1
DY	TLY15525F	TLY15525F	TLY15525F	OLY15312F1	OLY15312F1	OLY15312F1	KDY3NE525F	TACCV270T50V, H5	NIL	TACCV27
D008	NIL	NIL	NIL	MTZJ6.8C	MTZJ6.8C	MTZJ6.8C	MTZJ6.8C	OLY15312F1	KDY3NE525F	TLY15525
D015	NIL	NIL	NIL	SEL1410G	NIL	NIL	NIL	MTZJ6.8C	MTZJ6.8C	NIL
D455	MTZJ12C, H4	MTZJ12C, H4	MTZJ12C, H4	MTZJ12C, H4	MTZJ12C, H4	MTZJ12C, H4	MTZJ12C, H4	NIL	NIL	NIL
D558	RS3FS	RS3FS	RS3FS	NIL	NIL	NIL	NIL	MTZJ12C, H4	MTZJ12C, H4	MTZJ12C,
D559	RU2M	RU2M	RU2M	NIL	NIL	NIL	NIL	NIL	NIL	RS3FS
D801	RM11B	RM11B	RM11B	EM02BM	EM02BM	EM02BM	EM02BM	EM02BM	EM02BM	RU2M
D802	RM11B	RM11B	RM11B	EM02BM	EM02BM	EM02BM	EM02BM	EM02BM	EM02BM	RM11B
D803	RM11B	RM11B	RM11B	EM02BM	EM02BM	EM02BM	EM02BM	EM02BM	EM02BM	RM11B
D804	RM11B	RM11B	RM11B	EM02BM	EM02BM	EM02BM	EM02BM	EM02BM	EM02BM	RM11B
D805	TRPW5B0M050D	TRPW5B0M050D	TRPW5B0M050D	NIL	NIL	NIL	NIL	NIL	NIL	TRPW5B0M
D805	NIL	NIL	NIL	TAP104XM05	TAP104XM05	TAP104XM05	TAP104XM05	TAP104XM05	TAP104XM05	NIL
D3001	MA165	MA165	MA165	MA165	MA165	MA165	NIL	MA165	NIL	MA165
D3002	NIL	NIL	NIL	NIL	NIL	NIL	NIL	MTZJ11C	NIL	NIL
D3003	NIL	NIL	NIL	NIL	NIL	NIL	NIL	MTZJ11C	NIL	NIL
IC451	LA7836-TV	LA7836-TV	LA7836-TV	LA7835-TV	LA7835-TV	LA7835-TV	LA7835-TV	LA7835-TV	LA7835-TV	LA7836-T
IC1051	NIL	NIL	NIL	IPIC-12042SRB, H9	IPIC-12042SRB, H9	IPIC-12042SRB, H9	IPIC-12042SRB, H9	IPIC-12042SRB, H9	IPIC-12042SRB, H9	NIL
IC1051	RPM-637CBRS1, H1	RPM-637CBRS1, H1	RPM-637CBRS1, H1	NIL	NIL	NIL	NIL	NIL	NIL	NIL
IC2201	AN5818NK, H24	AN5818NK, H24	AN5818NK, H24	AN5818NK, H24	AN5818NK, H24	AN5818NK, H24	AN5818NK, H24	NIL	NIL	AN5818NK
IC2302	AN5265	AN5265	AN5265	AN5265	AN5265	AN5265	AN5265	NIL	NIL	AN5265
IC2451	AN5285K	NIL	NIL	AN5285K	AN5285K	NIL	NIL	NIL	NIL	AN5285K
IC3001	MC14066BCP, H5	MC14066BCP, H5	MC14066BCP, H5	MC14066BCP, H5	MC14066BCP, H5	MC14066BCP, H5	NIL	NIL	NIL	MC14066B
JK3001	TJB2A9063A	NIL	TJB2A9063A	TJB2A9063A	TJB2A9063A	NIL	NIL	NIL	NIL	TJB2A906
JK3001	NIL	TJB2A9064	NIL	NIL	NIL	NIL	NIL	TJB2A9061	NIL	NIL
JS012	03A506022, H5	03A506022, H5	03A506022, H5	NIL	NIL	NIL	NIL	NIL	NIL	NIL
JS015	NIL	NIL	NIL	NIL	NIL	NIL	NIL	03A505017	03A505017	03A50602
JS016	03A505017, H4	03A505017, H4	03A505017, H4	03A505017, H4	03A505017, H4	03A505017, H4	03A505017, H4	NIL	NIL	03A50501
JS551	NIL	NIL	NIL	03A506022	03A506022	03A506022	03A506022	03A506022	03A506022	NIL
JS557	NIL	NIL	NIL	NIL	NIL	NIL	NIL	03A505017	03A505017	NIL
JS802	NIL	NIL	NIL	03A506022	03A506022	03A506022	03A506022	03A506022	03A506022	NIL
JS804	03A505017	03A505017	03A505017	NIL	NIL	NIL	NIL	NIL	NIL	03A50501
JS805	03A506027	03A506027	03A506027	NIL	NIL	NIL	NIL	NIL	NIL	03A50602
JS806	NIL	NIL	NIL	03A506022	03A506022	03A506022	03A506022	03A506022	03A506022	NIL
JS807	03A505017	03A505017	03A505017	NIL	NIL	NIL	NIL	NIL	NIL	03A50501
JS808	03A505017	03A505017	03A505017	NIL	NIL	NIL	NIL	NIL	NIL	03A50501
JS2201	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	NIL	NIL	03A50501
JS2203	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	NIL	NIL	03A50501
JS2204	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	NIL	NIL	03A50501
JS2206	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	NIL	NIL	03A50501
JS2207	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	03A505017	NIL	NIL	03A50501
JS2301	NIL	03A505017	NIL	NIL	NIL	03A505017	03A505017	03A505017	03A505017	NIL
JS2302	NIL	03A505017	NIL	NIL	NIL	03A505017	03A505017	NIL	NIL	NIL
JS2303	NIL	NIL	NIL	NIL	NIL	NIL	NIL	03A505017	03A505017	NIL
JS2304	NIL	NIL	NIL	NIL	NIL	NIL	03A506022	03A506022	03A506022	NIL
JS2305	NIL	03A505017	03A505017	NIL	NIL	03A505017	NIL	NIL	NIL	NIL
JS2306	NIL	03A505017	03A505017	NIL	NIL	NIL	NIL	NIL	NIL	NIL

Application List

MTC9603628A1

941AH	ISERH0041AJ	ISERH0041AQ	ISERH0041AR	IREASON OF APPLI.
	INIL	ITJS3A9640	INIL	IFOR IR RECEIVER
01T50V	ITACCQ101T50V	ITACCQ221T50V, H5	ITACCQ101T50V	IOSD POSITION
21T50V	ITACCQ121T50V	ITACCQ181T50V, H5	ITACCQ121T50V	IOSD POSITION
	INIL	ITACCW222T50V, H5	INIL	IOSD POSITION
010GB	IECA1HM010GB	IECA1EM4R7GB	IECA1HM010GB	IABL
	INIL	ITACCW221T50V, H4	INIL	I
FS2R2B	IECEA1HFS2R2B	IECEA1HFS010B	IECEA1HFS2R2B	IV. LIN
473KF3	IECQB1H473KF3	IECQB1H224KF3	IECQB1H473KF3	IV. DEF
GE0R1B	IECEA1HGE0R1B	IECEA1HFS100B	IECEA1HGE0R1B	IINTRERLACE
	INIL	IECQM1104JZW	INIL	IV. DEF
223KF3	IECQB1H223KF3	IECQB1H223JF3, H13	IECQB1H223KF3	IH. AFC
103KF3	IECQB1H103KF3	IECQB1H153KF3	IECQB1H103KF3	IH. AFC
821KB5	IECKR2H821KB5	IECKR2H101KB5	IECKR2H821KB5	IH. DRIVE
U100WE	IECEA2EU100WE	IECEA2EU220WE	IECEA2EU100WE	I200V FILTER
220GB	IECA1EM220GB	IECA2AM220GB	IECA1EM220GB	IBLK. LEVEL RET.
B822JC	ITAC4R6B822JC	ITAC4R6B682JC, H4	ITAC4R6B822JC	IH. DEF
	INIL	ITAC4R6B562JC, H4	INIL	IH. DEF
102JBP, H5	IECKW3D331JBN, H11	IECKW3D102JBP, H5	IECKW3D102JBP, H5	IH. DEF
	INIL	IECQM2274JZW	INIL	ID. M.
D394JC	ITAC7A2D394JC	ITAC7A2D474JC, H5	ITAC7A2D394JC	IH. DEF
	INIL	IAP335K016CAE, H2	IAP335K016CAE, H2	IMTS
	INIL	IECA1HM4R7GB	IECA1HM4R7GB	IMTS
	INIL	IECA1HM010GB	IECA1HM010GB	IMTS
	INIL	IECA1HM4R7GB	IECA1HM4R7GB	IMTS
	INIL	IECA1EM4R7GB	IECA1EM4R7GB	IMTS
	INIL	IECA1EM4R7GB	IECA1EM4R7GB	IMTS
	INIL	IECA1HM4R7GB	IECA1HM4R7GB	IMTS
	INIL	IECA1HM4R7GB	IECA1HM4R7GB	IMTS
	INIL	IECA1CM101GB	IECA1CM101GB	IMTS
	INIL	IECA1HMR33GB	IECA1HMR33GB	IMTS
	INIL	IECA1HM0R1GB, H13	IECA1HM0R1GB, H13	IMTS
	INIL	IECQB1H104JF3	IECQB1H104JF3	IMTS
	INIL	IECQB1H104JF3	IECQB1H104JF3	IMTS
	INIL	IECQB1H223JF3, H2	IECQB1H223JF3, H2	IMTS
	INIL	ITACCW332T50V	ITACCW332T50V	IMTS
	INIL	IAP106K016CAE, H2	IAP106K016CAE, H2	IMTS
	INIL	IECEA1HN010UB	IECEA1HN010UB	IS-AGC
B2T50V	ITACCW182T50V	ITACCW681T50V	ITACCW182T50V	ISOUND QUALITY
	INIL	IECEA1CN100UB	IECEA1CN100UB	IMTS
	INIL	IECEA1HN010UB	IECEA1HN010UB	ISTEREO
102GE	IECA1EM102GE	IECEA1EU222E	IECEA1EU222E	ISTEREO/MONO
	INIL	IECA1CM220GB	IECA1CM220GB	ISTEREO/MONO
	INIL	IECEA1CGE100B	IECEA1CGE100B	ISTEREO/MONO
	INIL	IECA1CM221GB	IECA1CM221GB	ISTEREO/MONO
	INIL	IECQB1H683KF3	IECQB1H683KF3	ISTEREO/MONO
	INIL	ITACCW681T50V	ITACCW182T50V	ISTEREO/MONO
	INIL	IECEA1HN010UB	IECEA1HN010UB	ISTEREO
	INIL	IECA1HM010GB	IECA1HM010GB	ISTEREO/MONO
	INIL	IECA1CM100GB	INIL	IS-AGC
	INIL	IECA1CM100GB	INIL	IS-AGC
	INIL	IECA1HM4R7GB	INIL	IS-AGC
	INIL	IECA1CM221GB	INIL	IS-AGC
	INIL	IECA1HM010GB	IECA1HM010GB	I1AV, ST
	INIL	IECA1HM010GB	IECA1HM010GB	I1AV, ST
100GB	INIL	INIL	INIL	I1AV/MONO
100GB	INIL	INIL	INIL	I1AV/MONO
31T50V	INIL	INIL	INIL	I1AV/MONO
20T50V, H5	INIL	ITACCV220T50V, H5	ITACCV220T50V, H5	ICOLOR TRANSIENT
100GB	INIL	IECA1HM100GB	IECA1HM100GB	I1AV
70T50V, H5	INIL	ITACCV270T50V, H5	ITACCV270T50V, H5	ICOLOR TRANSIENT
12F1	IKDY3NE525F	ITLY15525F	IOLY15312F1	IH. DEF
8C	IMTZJ6. 8C	INIL	IMTZJ6. 8C	IOSD POSITION
	INIL	INIL	INIL	ION TIMER
C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IV-OUT VCC1
	INIL	IRS3FS	INIL	ID. M.
	INIL	IRU2M	INIL	ID. M.
	IEM02BM	IRM11B	IEM02BM	IAC BRIDGE
	IEM02BM	IRM11B	IEM02BM	IAC BRIDGE
	IEM02BM	IRM11B	IEM02BM	IAC BRIDGE
	IEM02BM	IRM11B	IEM02BM	IAC BRIDGE
	INIL	ITRPW5B0M050D	INIL	IPOSISTOR FOR 27V
XM05	ITAP104XM05	INIL	ITAP104XM05	IPOSISTOR 13V/20V
	INIL	IMA165	IMA165	I1AV, ST
C	INIL	INIL	INIL	I
C	INIL	INIL	INIL	I
-TV	ILA7835-TV	ILA7836-TV	ILA7835-TV	IV-OUT
042SRB, H9	IPIC-12042SRB, H9	INIL	IPIC-12042SRB, H9	I
	INIL	INIL	INIL	IIR RECEIVER
	INIL	IAN5818NK, H24	IAN5818NK, H24	IMTS
	INIL	IAN5265	IAN5265	ISTEREO/MONO
	INIL	IAN5285K	INIL	IS-AGC
	INIL	IMC14066BCP, H5	IMC14066BCP, H5	I1AV, ST
	INIL	ITJB2A9063A	INIL	I1AV ST, W/H VAO
061	INIL	INIL	INIL	I1AV MONO, W/O VAO
	INIL	INIL	ITJB2A9064A	I1AV ST, W/O VAO
	INIL	I03A506022, H5	INIL	IOSD POSITION
017	I03A505017	INIL	INIL	IMONO
	INIL	I03A505017, H4	I03A505017, H4	IMONO
022	I03A506022	INIL	I03A506022	INO D. M.
017	I03A505017	INIL	INIL	IMONO
022	I03A506022	INIL	I03A506022	IPOW FOR 13V/20V
	INIL	I03A505017	INIL	IPOWER FOR 27V
	INIL	I03A506027	INIL	IPOWER FOR 27V
022	I03A506022	INIL	I03A506022	IPOW FOR 13V/20V
	INIL	I03A505017	INIL	I130V FOR 27V
	INIL	I03A505017	INIL	IKUNYARITY
	INIL	I03A505017	I03A505017	I
	INIL	I03A505017	I03A505017	IMTS
	INIL	I03A505017	I03A505017	IMTS
	INIL	I03A505017	I03A505017	IMTS
	INIL	I03A505017	I03A505017	IMTS
017	I03A505017	INIL	I03A505017	IW/O VAO OR MONO
	INIL	INIL	I03A505017	I(W/O VAO)FOR ST
017	I03A505017	INIL	INIL	IMONO
022	I03A506022	INIL	INIL	IW/O S-AGC
	INIL	INIL	I03A505017	IS-AGC

IC2310	IECEA1CN100UB	IECEA1CN100UB	IECEA1CN100UB	IECEA1CN100UB	IECEA1CN100UB	IECEA1CN100UB	IECEA1CN100UB	INIL	INIL	IECEA1CN100UB	IECEA1CN100UB	IMTS
IC2311	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	INIL	INIL	IECEA1HN010UB	IECEA1HN010UB	ISTEREO
IC2351	IECEA1EU222E	IECEA1EU222E	IECEA1EU222E	IECEA1EU222E	IECEA1EU222E	IECEA1EU222E	IECEA1EU222E	IECA1EM102GE	IECA1EM102GE	IECEA1EU222E	IECEA1EU222E	ISTEREO/MONO
IC2352	IECA1CM220GB	IECA1CM220GB	IECA1CM220GB	IECA1CM220GB	IECA1CM220GB	IECA1CM220GB	IECA1CM220GB	INIL	INIL	IECA1CM220GB	IECA1CM220GB	ISTEREO/MONO
IC2353	IECEA1CGE100B	IECEA1CGE100B	IECEA1CGE100B	IECEA1CGE100B	IECEA1CGE100B	IECEA1CGE100B	IECEA1CGE100B	INIL	INIL	IECEA1CGE100B	IECEA1CGE100B	ISTEREO/MONO
IC2355	IECA1CM221GB	IECA1CM221GB	IECA1CM221GB	IECA1CM221GB	IECA1CM221GB	IECA1CM221GB	IECA1CM221GB	INIL	INIL	IECA1CM221GB	IECA1CM221GB	ISTEREO/MONO
IC2356	IECQB1H683KF3	IECQB1H683KF3	IECQB1H683KF3	IECQB1H683KF3	IECQB1H683KF3	IECQB1H683KF3	IECQB1H683KF3	INIL	INIL	IECQB1H683KF3	IECQB1H683KF3	ISTEREO/MONO
IC2357	ITACCW681T50V	ITACCW681T50V	ITACCW681T50V	ITACCW182T50V	ITACCW182T50V	ITACCW182T50V	ITACCW182T50V	INIL	INIL	ITACCW681T50V	ITACCW182T50V	ISTEREO/MONO
IC2359	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	IECEA1HN010UB	INIL	INIL	IECEA1HN010UB	IECEA1HN010UB	ISTEREO
IC2360	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	INIL	INIL	IECA1HM010GB	IECA1HM010GB	ISTEREO/MONO
IC2451	IECA1CM100GB	INIL	INIL	IECA1CM100GB	IECA1CM100GB	INIL	INIL	INIL	INIL	IECA1CM100GB	INIL	IS-AGC
IC2452	IECA1CM100GB	INIL	INIL	IECA1CM100GB	IECA1CM100GB	INIL	INIL	INIL	INIL	IECA1CM100GB	INIL	IS-AGC
IC2453	IECA1HM4R7GB	INIL	INIL	IECA1HM4R7GB	IECA1HM4R7GB	INIL	INIL	INIL	INIL	IECA1HM4R7GB	INIL	IS-AGC
IC2454	IECA1CM221GB	INIL	INIL	IECA1CM221GB	IECA1CM221GB	INIL	INIL	INIL	INIL	IECA1CM221GB	INIL	IS-AGC
IC3001	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	INIL	INIL	INIL	IECA1HM010GB	IECA1HM010GB	I1AV, ST
IC3002	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	IECA1HM010GB	INIL	INIL	INIL	IECA1HM010GB	IECA1HM010GB	I1AV, ST
IC3003	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IECA1HM100GB	INIL	INIL	INIL	I1AV/MONO
IC3004	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IECA1HM100GB	INIL	INIL	INIL	I1AV/MONO
IC3005	INIL	INIL	INIL	INIL	INIL	INIL	INIL	ITACCW331T50V	INIL	INIL	INIL	I1AV/MONO
IC3006	ITACCV220T50V, H5	ITACCV220T50V, H5	ITACCV220T50V, H5	ITACCV220T50V, H5	ITACCV220T50V, H5	ITACCV220T50V, H5	INIL	ITACCV220T50V, H5	INIL	ITACCV220T50V, H5	ITACCV220T50V, H5	ICOLOR TRANSIENT
IC3007	IECA1HM100GB	IECA1HM100GB	IECA1HM100GB	IECA1HM100GB	IECA1HM100GB	IECA1HM100GB	INIL	IECA1HM100GB	INIL	IECA1HM100GB	IECA1HM100GB	I1AV
IC3008	ITACCV270T50V, H5	ITACCV270T50V, H5	ITACCV270T50V, H5	ITACCV270T50V, H5	ITACCV270T50V, H5	ITACCV270T50V, H5	INIL	ITACCV270T50V, H5	INIL	ITACCV270T50V, H5	ITACCV270T50V, H5	ICOLOR TRANSIENT
IDY	ITLY15525F	ITLY15525F	ITLY15525F	IOLY15312F1	IOLY15312F1	IOLY15312F1	IKDY3NE525F	IOLY15312F1	IKDY3NE525F	ITLY15525F	IOLY15312F1	IH. DEF
ID008	INIL	INIL	INIL	IMTZJ6.8C	IMTZJ6.8C	IMTZJ6.8C	IMTZJ6.8C	IMTZJ6.8C	IMTZJ6.8C	INIL	IMTZJ6.8C	IOSD POSITION
ID015	INIL	INIL	INIL	ISEL1410G	INIL	INIL	INIL	INIL	INIL	INIL	INIL	ION TIMER
ID455	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IMTZJ12C, H4	IV-OUT VCC1
ID558	IRS3FS	IRS3FS	IRS3FS	INIL	INIL	INIL	INIL	INIL	INIL	IRS3FS	INIL	ID.M.
ID559	IRV2M	IRV2M	IRV2M	INIL	INIL	INIL	INIL	INIL	INIL	IRV2M	INIL	ID.M.
ID801	IRM11B	IRM11B	IRM11B	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IRM11B	IEM02BM	IAC BRIDGE
ID802	IRM11B	IRM11B	IRM11B	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IRM11B	IEM02BM	IAC BRIDGE
ID803	IRM11B	IRM11B	IRM11B	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IRM11B	IEM02BM	IAC BRIDGE
ID804	IRM11B	IRM11B	IRM11B	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IEM02BM	IRM11B	IEM02BM	IAC BRIDGE
ID805	ITRPW5B0M050D	ITRPW5B0M050D	ITRPW5B0M050D	INIL	INIL	INIL	INIL	INIL	INIL	ITRPW5B0M050D	INIL	IPOSISTOR FOR 27V
ID805	INIL	INIL	INIL	ITAP104XM05	ITAP104XM05	ITAP104XM05	ITAP104XM05	ITAP104XM05	ITAP104XM05	INIL	ITAP104XM05	IPOSISTOR 13V/20V
ID3001	IMA165	IMA165	IMA165	IMA165	IMA165	IMA165	INIL	IMA165	INIL	IMA165	IMA165	I1AV, ST
ID3002	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IMTZJ11C	INIL	INIL	INIL	I
ID3003	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IMTZJ11C	INIL	INIL	INIL	I
IIC451	ILA7836-TV	ILA7836-TV	ILA7836-TV	ILA7835-TV	ILA7835-TV	ILA7835-TV	ILA7835-TV	ILA7835-TV	ILA7835-TV	ILA7836-TV	ILA7835-TV	IV-OUT
IIC1051	INIL	INIL	INIL	IPIC-12042SRB, H9	IPIC-12042SRB, H9	IPIC-12042SRB, H9	IPIC-12042SRB, H9	IPIC-12042SRB, H9	IPIC-12042SRB, H9	INIL	IPIC-12042SRB, H9	I
IIC1051	IRPM-637CBRS1, H1	IRPM-637CBRS1, H1	IRPM-637CBRS1, H1	INIL	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IIR RECEIVER
IIC2201	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	INIL	INIL	IAN5818NK, H24	IAN5818NK, H24	IMTS
IIC2302	IAN5265	IAN5265	IAN5265	IAN5265	IAN5265	IAN5265	IAN5265	INIL	INIL	IAN5265	IAN5265	ISTEREO/MONO
IIC2451	IAN5285K	INIL	INIL	IAN5285K	IAN5285K	INIL	INIL	INIL	INIL	IAN5285K	INIL	IS-AGC
IIC3001	IMC14066BCP, H5	IMC14066BCP, H5	IMC14066BCP, H5	IMC14066BCP, H5	IMC14066BCP, H5	IMC14066BCP, H5	INIL	INIL	INIL	IMC14066BCP, H5	IMC14066BCP, H5	I1AV, ST
IJK3001	ITJB2A9063A	INIL	ITJB2A9063A	ITJB2A9063A	ITJB2A9063A	INIL	INIL	INIL	INIL	ITJB2A9063A	INIL	I1AV ST, W/H VAO
IJK3001	INIL	INIL	INIL	INIL	INIL	INIL	INIL	ITJB2A9061	INIL	INIL	INIL	I1AV MONO, W/O VAO
IJK3001	INIL	ITJB2A9064	INIL	INIL	INIL	ITJB2A9064A	INIL	INIL	INIL	INIL	ITJB2A9064A	I1AV ST, W/O VAO
IJS012	I03A506022, H5	I03A506022, H5	I03A506022, H5	INIL	INIL	INIL	INIL	INIL	INIL	I03A506022, H5	INIL	IOSD POSITION
IJS015	INIL	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	I03A505017	INIL	INIL	IMONO
IJS016	I03A505017, H4	I03A505017, H4	I03A505017, H4	I03A505017, H4	I03A505017, H4	I03A505017, H4	I03A505017, H4	INIL	INIL	I03A505017, H4	I03A505017, H4	IMONO
IJS551	INIL	INIL	INIL	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	I03A506022	INO D.M.
IJS557	INIL	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	I03A505017	INIL	INIL	IMONO
IJS802	INIL	INIL	INIL	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	I03A506022	IPOW FOR 13V/20V
IJS804	I03A505017	I03A505017	I03A505017	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	INIL	IPOWER FOR 27V
IJS805	I03A506027	I03A506027	I03A506027	INIL	INIL	INIL	INIL	INIL	INIL	I03A506027	INIL	IPOWER FOR 27V
IJS806	INIL	INIL	INIL	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	I03A506022	IPOW FOR 13V/20V
IJS807	I03A505017	I03A505017	I03A505017	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	INIL	I130V FOR 27V
IJS808	I03A505017	I03A505017	I03A505017	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	INIL	IKUNYARITY
IJS2201	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	I
IJS2203	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	IMTS
IJS2204	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	IMTS
IJS2206	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	IMTS
IJS2207	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	IMTS
IJS2301	INIL	I03A505017	INIL	INIL	INIL	I03A505017	I03A505017	I03A505017	I03A505017	INIL	I03A505017	IW/O VAO OR MONO
IJS2302	INIL	I03A505017	INIL	INIL	INIL	I03A505017	I03A505017	INIL	INIL	INIL	I03A505017	I(W/O VAO)FOR ST
IJS2303	INIL	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	I03A505017	INIL	INIL	IMONO
IJS2304	INIL	INIL	INIL	INIL	INIL	INIL	I03A506022	I03A506022	I03A506022	INIL	INIL	IW/O S-AGC
IJS2305	INIL	I03A505017	I03A505017	INIL	INIL	I03A505017	INIL	INIL	INIL	INIL	I03A505017	IS-AGC
IJS2306	INIL	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	INIL	INIL	INIL	I03A505017	IS-AGC
IJS2401	I03A506027	INIL	INIL	I03A506027	I03A506027	INIL	INIL	INIL	INIL	I03A506027	INIL	IS-AGC ON/OFF
IJS2402	I03A506022	INIL	INIL	I03A506022	I03A506022	INIL	INIL	INIL	INIL	I03A506022	INIL	IS-AGC ON/OFF
IJS3003	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3004	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3005	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	INIL	INIL	I03A506027	I03A506027	I1AV, ST
IJS3006	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3007	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3008	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3009	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	INIL	INIL	I03A506027	I03A506027	IMTS
IJS3010	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	I03A506022	I03A506022	IMTS
IJS3011	INIL	INIL	INIL	INIL	INIL	INIL	I03A506022	INIL	INIL	INIL	INIL	I1AV, ST
IJS3013	I03A505017, H5	I03A505017, H5	I03A505017, H5	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017, H5	INIL	IMONO
IL002	INIL	INIL	INIL	ITLUABTA151K	ITLUABTA151K	ITLUABTA151K	ITLUABTA151K	ITLUABTA151K	ITLUABTA151K	INIL	ITLUABTA151K	I
IL021	ITLTACT390K	ITLTACT390K	ITLTACT390K	ITLTACT390K	ITLTACT390K	ITLTACT390K	ITLTACT390K	INIL	INIL	ITLTACT390K	ITLTACT390K	ISTEREO/MONO
IL551	ITLH6621P	ITLH6621P	ITLH6621P	ITLH15652P	ITLH15652P	ITLH15652P	ITLH15652P	ITLH15652P	ITLH15652P	ITLH6621P	ITLH15652P	IH. DEF
IL3001	ITLTACT270J, H5	ITLTACT270J, H5	ITLTACT270J, H5	ITLTACT270J, H5	ITLTACT270J, H5	ITLTACT270J, H5	INIL	ITLTACT270J, H5	INIL	ITLTACT270J, H5	ITLTACT270J, H5	ICOLOR TRANSIENT
IQ501	I2SC4212HLB	I2SC4212HLB	I2SC4212HLB	I2SC1573AH	I2SC1573AH	I2SC1573AH	I2SC1573AH	I2SC1573AH	I2SC1573AH	I2SC4212HLB	I2SC1573AH	IH. DRIVE
IQ551	IBV2508DF	IBV2508DF	IBV2508DF	IBV2506DF	IBV2506DF	IBV2506DF	IBV2506DF	IBV2506DF	IBV2506DF	IBV2508DF	IBV2506DF	IH. OUT
IQ801	IFN521, H4	IFN521, H4	IFN521, H4	INIL	INIL	INIL	INIL	INIL	INIL	IFN521, H4	INIL	IPOWER FOR 27V
IQ802	IFN521	IFN521	IFN521	INIL	INIL	INIL	INIL	INIL	INIL	IFN521	INIL	IPOWER FOR 27V
IQ803	INIL	INIL	INIL	IFN521	IFN521	IFN521	IFN521	IFN521	IFN521	INIL	IFN521	IPOW FOR 13V/20V
IQ3001	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	INIL	I2SC1685QRSTA	INIL	I2SC1685QRSTA	I2SC1685QRSTA	I1AV
IQ3002	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	INIL	INIL	INIL	I2SC1685QRSTA	I2SC1685QRSTA	I1AV, ST
IQ3003	INIL	INIL	INIL	INIL	INIL	INIL	INIL	I2SC1685QRS	INIL	INIL	INIL	I1AV/MONO
IR024	IERDS2TJ222T, H5	IERDS2TJ222T, H5	IERDS2TJ222T, H5	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ222T, H5	IERDS2TJ272T	IVOL CONT
IR025	IERDS2TJ272T, H4	IERDS2TJ272T, H4	IERDS2TJ272T, H4	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ272T, H4	IERDS2TJ473T	IOSD POSITION
IR026	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ472T	IERDS2TJ562T	IOSD POSITION
IR027	IERDS2TJ682T, H5	IERDS2TJ682T, H5	IERDS2TJ682T, H5	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ682T, H5	IERDS2TJ822T	IVOL CONT
IR028	IERDS2TJ683T, H5	IERDS2TJ683T, H5	IERDS2TJ683T, H5	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ683T, H5	IERDS2TJ823T	IVOL CONT

IIC2201	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	IAN5818NK, H24	INIL	INIL	IAN5818NK, H24	IAN5818NK, H24	IMTS
IIC2302	IAN5265	IAN5265	IAN5265	IAN5265	IAN5265	IAN5265	IAN5265	INIL	INIL	IAN5265	IAN5265	ISTEREO/MONO
IIC2451	IAN5285K	INIL	INIL	IAN5285K	IAN5285K	INIL	INIL	INIL	INIL	IAN5285K	INIL	IS-AGC
IIC3001	IMC14066BCP, H5	IMC14066BCP, H5	IMC14066BCP, H5	IMC14066BCP, H5	IMC14066BCP, H5	IMC14066BCP, H5	INIL	INIL	INIL	IMC14066BCP, H5	IMC14066BCP, H5	I1AV, ST
IJK3001	ITJB2A9063A	INIL	ITJB2A9063A	ITJB2A9063A	ITJB2A9063A	INIL	INIL	INIL	INIL	ITJB2A9063A	INIL	I1AV ST, W/H VAO
IJK3001	INIL	INIL	INIL	INIL	INIL	INIL	INIL	ITJB2A9061	INIL	INIL	INIL	I1AV MONO, W/O VAO
IJK3001	INIL	ITJB2A9064	INIL	INIL	INIL	ITJB2A9064A	INIL	INIL	INIL	INIL	ITJB2A9064A	I1AV ST, W/O VAO
IJS012	I03A506022, H5	I03A506022, H5	I03A506022, H5	INIL	INIL	INIL	INIL	INIL	INIL	I03A506022, H5	INIL	IOSD POSITION
IJS015	INIL	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	I03A505017	INIL	INIL	IMONO
IJS016	I03A505017, H4	I03A505017, H4	I03A505017, H4	I03A505017, H4	I03A505017, H4	I03A505017, H4	I03A505017, H4	INIL	INIL	I03A505017, H4	I03A505017, H4	IMONO
IJS551	INIL	INIL	INIL	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	I03A506022	INO D.M.
IJS557	INIL	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	I03A505017	INIL	INIL	IMONO
IJS802	INIL	INIL	INIL	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	I03A506022	IPOW FOR 13V/20V
IJS804	I03A505017	I03A505017	I03A505017	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	INIL	IPOWER FOR 27V
IJS805	I03A506027	I03A506027	I03A506027	INIL	INIL	INIL	INIL	INIL	INIL	I03A506027	INIL	IPOWER FOR 27V
IJS806	INIL	INIL	INIL	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	I03A506022	IPOW FOR 13V/20V
IJS807	I03A505017	I03A505017	I03A505017	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	INIL	I130V FOR 27V
IJS808	I03A505017	I03A505017	I03A505017	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	INIL	IKUNYARITY
IJS2201	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	I
IJS2203	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	IMTS
IJS2204	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	IMTS
IJS2206	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	IMTS
IJS2207	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	IMTS
IJS2301	INIL	I03A505017	INIL	INIL	INIL	I03A505017	I03A505017	I03A505017	I03A505017	INIL	I03A505017	IW/O VAO OR MONO
IJS2302	INIL	I03A505017	INIL	INIL	INIL	I03A505017	I03A505017	INIL	INIL	INIL	I03A505017	I(W/O VAO)FOR ST
IJS2303	INIL	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017	I03A505017	INIL	INIL	IMONO
IJS2304	INIL	INIL	INIL	INIL	INIL	INIL	I03A506022	I03A506022	I03A506022	INIL	INIL	IW/O S-AGC
IJS2305	INIL	I03A505017	I03A505017	INIL	INIL	I03A505017	INIL	INIL	INIL	INIL	I03A505017	IS-AGC
IJS2306	INIL	I03A505017	I03A505017	INIL	INIL	I03A505017	I03A505017	INIL	INIL	INIL	I03A505017	IS-AGC
IJS2401	I03A506027	INIL	INIL	I03A506027	I03A506027	INIL	INIL	INIL	INIL	I03A506027	INIL	IS-AGC ON/OFF
IJS2402	I03A506022	INIL	INIL	I03A506022	I03A506022	INIL	INIL	INIL	INIL	I03A506022	INIL	IS-AGC ON/OFF
IJS3003	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3004	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3005	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	I03A506022	I03A506027	INIL	INIL	I03A506027	I03A506027	I1AV, ST
IJS3006	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3007	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3008	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	INIL	I03A506022	I03A506022	I1AV, ST
IJS3009	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	I03A506027	INIL	INIL	I03A506027	I03A506027	IMTS
IJS3010	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	I03A506022	INIL	INIL	I03A506022	I03A506022	IMTS
IJS3011	INIL	INIL	INIL	INIL	INIL	INIL	I03A506022	INIL	INIL	INIL	INIL	I1AV, ST
IJS3013	I03A505017, H5	I03A505017, H5	I03A505017, H5	INIL	INIL	INIL	INIL	INIL	INIL	I03A505017, H5	INIL	IMONO
IL002	INIL	INIL	INIL	ITLUABTA151K	ITLUABTA151K	ITLUABTA151K	ITLUABTA151K	ITLUABTA151K	ITLUABTA151K	INIL	ITLUABTA151K	I
IL021	ITLTACT390K	ITLTACT390K	ITLTACT390K	ITLTACT390K	ITLTACT390K	ITLTACT390K	ITLTACT390K	INIL	INIL	ITLTACT390K	ITLTACT390K	ISTEREO/MONO
IL551	ITLH6621P	ITLH6621P	ITLH6621P	ITLH15652P	ITLH15652P	ITLH15652P	ITLH15652P	ITLH15652P	ITLH15652P	ITLH6621P	ITLH15652P	IH. DEF
IL3001	ITLTACT270J, H5	ITLTACT270J, H5	ITLTACT270J, H5	ITLTACT270J, H5	ITLTACT270J, H5	ITLTACT270J, H5	INIL	ITLTACT270J, H5	INIL	ITLTACT270J, H5	ITLTACT270J, H5	ICOLOR TRANSIENT
IQ501	I2SC4212HLB	I2SC4212HLB	I2SC4212HLB	I2SC1573AH	I2SC1573AH	I2SC1573AH	I2SC1573AH	I2SC1573AH	I2SC1573AH	I2SC4212HLB	I2SC1573AH	IH. DRIVE
IQ551	IBU2508DF	IBU2508DF	IBU2508DF	IBU2506DF	IBU2506DF	IBU2506DF	IBU2506DF	IBU2506DF	IBU2506DF	IBU2508DF	IBU2506DF	IH. OUT
IQ801	IFN521, H4	IFN521, H4	IFN521, H4	INIL	INIL	INIL	INIL	INIL	INIL	IFN521, H4	INIL	IPOWER FOR 27V
IQ802	IFN521	IFN521	IFN521	INIL	INIL	INIL	INIL	INIL	INIL	IFN521	INIL	IPOWER FOR 27V
IQ803	INIL	INIL	INIL	IFN521	IFN521	IFN521	IFN521	IFN521	IFN521	INIL	IFN521	IPOW FOR 13V/20V
IQ3001	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	INIL	I2SC1685QRSTA	INIL	I2SC1685QRSTA	I2SC1685QRSTA	I1AV
IQ3002	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	I2SC1685QRSTA	INIL	INIL	INIL	I2SC1685QRSTA	I2SC1685QRSTA	I1AV, ST
IQ3003	INIL	INIL	INIL	INIL	INIL	INIL	INIL	I2SC1685QRS	INIL	INIL	INIL	I1AV/MONO
IR024	IERDS2TJ222T, H5	IERDS2TJ222T, H5	IERDS2TJ222T, H5	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ222T, H5	IERDS2TJ272T	IVOL CONT
IR025	IERDS2TJ272T, H4	IERDS2TJ272T, H4	IERDS2TJ272T, H4	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ272T, H4	IERDS2TJ473T	IOSD POSITION
IR026	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ562T	IERDS2TJ472T	IERDS2TJ562T	IOSD POSITION
IR027	IERDS2TJ682T, H5	IERDS2TJ682T, H5	IERDS2TJ682T, H5	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ822T	IERDS2TJ682T, H5	IERDS2TJ822T	IVOL CONT
IR028	IERDS2TJ683T, H5	IERDS2TJ683T, H5	IERDS2TJ683T, H5	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ823T	IERDS2TJ683T, H5	IERDS2TJ823T	IVOL CONT
IR029	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ222T	IERDS2TJ222T	IERDS2TJ222T	IERDS2TJ222T	IERDS2TJ222T	IERDS2TJ222T	IERDS2TJ102T, H4	IERDS2TJ222T	IOSD POSITION
IR046	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ332T	IERDS2TJ272T	IVOL CONT
IR050	INIL	INIL	INIL	INIL	INIL	INIL	IERDS2TJ273T	IERDS2TJ393T, H4	IERDS2TJ273T	INIL	INIL	I
IR051	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	IERD62TJ103T	IERD62TJ103T	IERD62TJ103T	IERD62TJ183T	IERD62TJ153T	IERD62TJ183T	IERDS2TJ103T	IERD62TJ103T	I
IR054	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	INIL	IERDS2TJ102T	INIL	IERDS2TJ102T	IERDS2TJ102T	I1AV
IR061	INIL	INIL	INIL	IERDS2TJ271T	INIL	INIL	INIL	INIL	INIL	INIL	INIL	ION-TIMER LED
IR062	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	INIL	IERDS2TJ103T	INIL	IERDS2TJ103T	IERDS2TJ103T	I1AV
IR090	INIL	IERDS2TJ103T	IERDS2TJ103T	INIL	INIL	IERDS2TJ103T, H4	IERDS2TJ103T	IERDS2TJ153T	IERDS2TJ153T	INIL	IERDS2TJ103T	I
IR091	IERDS2TJ103T, H4	INIL	INIL	IERDS2TJ103T, H4	IERDS2TJ103T, H4	INIL	INIL	IERDS2TJ393T	IERDS2TJ393T	IERDS2TJ103T, H4	INIL	I
IR204	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	INIL	IERDS2TJ472T	IERDS2TJ472T	ISTEREO
IR312	IERDS2TJ222T, H5	IERDS2TJ222T, H5	IERDS2TJ222T, H5	IERDS2TJ471T	IERDS2TJ471T	IERDS2TJ471T	IERDS2TJ471T	IERDS2TJ471T	IERDS2TJ471T	IERDS2TJ222T, H5	IERDS2TJ471T	IDOT INTERFERENCE
IR451	IERDS2TJ471T	IERDS2TJ471T	IERDS2TJ471T	IERDS2TJ681T	IERDS2TJ681T	IERDS2TJ681T	IERDS2TJ681T	IERDS2TJ681T	IERDS2TJ681T	IERDS2TJ471T	IERDS2TJ681T	IV. DEF
IR452	IERDS2TJ273T	IERDS2TJ273T	IERDS2TJ273T	IERDS2TJ333T	IERDS2TJ333T	IERDS2TJ333T	IERDS2TJ333T	IERDS2TJ393T	IERDS2TJ333T	IERDS2TJ393T	IERDS2TJ273T	IERDS2TJ333T	IV. SIZE
IR454	IERDS1FJ3R3P	IERDS1FJ3R3P	IERDS1FJ3R3P	INIL	INIL	INIL	INIL	INIL	INIL	IERDS1FJ3R3P	INIL	IV. DEF
IR455	IERDS2TJ393T	IERDS2TJ393T	IERDS2TJ393T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ393T	IERDS2TJ223T	IV. LIN
IR456	IERDS2TJ393T	IERDS2TJ393T	IERDS2TJ393T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ393T	IERDS2TJ332T	IV. LIN
IR457	IERDS2TJ202T	IERDS2TJ202T	IERDS2TJ202T	IERDS2TJ152T	IERDS2TJ152T	IERDS2TJ152T	IERDS2TJ152T	IERDS2TJ152T	IERDS2TJ152T	IERDS2TJ202T	IERDS2TJ152T	IV. LIN
IR458	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ333T	IERDS2TJ333T	IERDS2TJ333T	IERDS2TJ333T	IERDS2TJ333T	IERDS2TJ333T	IERDS2TJ223T	IERDS2TJ333T	IV. LIN
IR461	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	INIL	INIL	INIL	INIL	INIL	INIL	IERDS2TJ102T	INIL	IV. DEF
IR465	IERDS1FJ1R5P	IERDS1FJ1R5P	IERDS1FJ1R5P	INIL	INIL	INIL	INIL	INIL	INIL	IERDS1FJ1R5P	INIL	IV. DEF
IR469	IERDS1FJ3R3P	IERDS1FJ3R3P	IERDS1FJ3R3P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ3R3P	IERDS1FJ1R8P	IV. DEF
IR503	IERDS2TJ182T	IERDS2TJ182T	IERDS2TJ182T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ182T	IERDS2TJ392T	IH AFC
IR504	IERDS2TJ561T	IERDS2TJ561T	IERDS2TJ561T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ561T	IERDS2TJ821T	IH. DRIVE
IR505	IERDS2TJ682T	IERDS2TJ682T	IERDS2TJ682T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ682T	IERDS2TJ472T	IH. DRIVE
IR506	IERDS2TJ100T	IERDS2TJ100T	IERDS2TJ100T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ100T	IERDS2TJ680T	IH. AFC
IR509	IERG1ANJP392H	IERG1ANJP392H	IERG1ANJP392H	IERG2ANJP562H	IERG2ANJP562H	IERG2ANJP562H	IERG2ANJP562H	IERG2ANJP562H	IERG2ANJP562H	IERG1ANJP392H	IERG2ANJP562H	IH. DRIVE
IR510	IERG3ANJP821H	IERG3ANJP821H	IERG3ANJP821H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG3ANJP821H	IERG2ANJP911H	IH. DRIVE
IR511	IERG3ANJP102H	IERG3ANJP102H	IERG3ANJP102H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG3ANJP102H	IERG2ANJP911H	IH. DRIVE
IR532	IEROS2TKF5362	IEROS2TKF5362	IEROS2TKF5362	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF5362	IEROS2TKF4422	IH.H.S.
IR556	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ272T	IERDS2TJ332T	IACL
IR558	IERQ1CJ1R8, H3	IERQ1CJ1R8, H3	IERQ1CJ1R8, H3	IERQ1CKR82	IERQ1CKR82	IERQ1CKR82	IERQ12HKR47, H11	IERQ1CKR82	IERQ12HKR47, H11	IERQ1CJ1R8, H3	IERQ1CKR82	IHEATER
IR560	IERG2ANJP182H	IERG2ANJP182H	IERG2ANJP182H	IERDS1TJ681T	IERDS1TJ681T	IERDS1TJ681T	IERDS1TJ681T	IERDS1TJ681T	IERDS1TJ681T	IERG2ANJP182H	IERDS1TJ681T	IBLK. LEVEL RET.
IR561	IERG2ANJP102H	IERG2ANJP102H	IERG2ANJP102H	INIL	INIL	INIL	INIL	INIL	INIL	IERG2ANJP102H	INIL	IH. DEF
IR562	IERG3ANJP820H	IERG3ANJP820H	IERG3ANJP820H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP820H	IERG3ANJP680H	I5V LINE
IR563	IERDS2TJ623T	IERDS2TJ623T	IERDS2TJ623T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ623T	IERDS2TJ124T	IACL
IR584	INIL	INIL	INIL	IERG2ANJP122H	IERG2ANJP122H	IERG2ANJP122H	IERG2ANJP122H	IERG2ANJP122H	IERG2ANJP122H	INIL	IERG2ANJP122H	IRASTER RINGING
IR801	IERF10ZK1R5	IERF10ZK1R5	IERF10ZK1R5	IERF7ZK2R7	IERF7ZK2R7	IERF7ZK2R7	IERF7ZK2R7	IERF7ZK2R7	IERF7ZK2R7	IERF10ZK1R5	IERF7ZK2R7	I120V/127V
IR806	IERX1SJ3R9P	IERX1SJ3R9P	IERX1SJ3R9P	INIL	INIL	INIL	INIL	INIL	INIL	IERX1SJ3R9P	INIL	IPOWER FOR 27V
IR807	IERX1SJ3R9P	IERX1SJ3R9P	IERX1SJ3R9P	INIL	INIL	INIL	INIL	INIL	INIL	IERX1SJ3R9P	INIL	IPOWER FOR 27V
IR817	INIL	INIL	INIL	IERX3ANJ4R7	IERX3ANJ4R7	IERX3ANJ4R7	IERX3ANJ4R7	IERX3ANJ4R7	IERX3ANJ4R7	INIL	IERX3ANJ4R7	I130V FOR 13V/20V
IR818	IERF20ZJ221	IERF20ZJ221	IERF20ZJ221	IERF20ZJ181	IERF20ZJ181	IERF20ZJ181	IERF20ZJ181	IERF20ZJ181	IERF20ZJ181	IERF20ZJ221	IERF20ZJ181	IB+ AVR

JS3009	03A506027	03A506027	03A506027	03A506027	03A506027	03A506027	03A506027	NIL	NIL	03A506027	03A506027	MTS
JS3010	03A506022	03A506022	03A506022	03A506022	03A506022	03A506022	03A506022	NIL	NIL	03A506022	03A506022	MTS
JS3011	NIL	NIL	NIL	NIL	NIL	NIL	03A506022	NIL	NIL	NIL	NIL	1AV, ST
JS3013	03A505017, H5	03A505017, H5	03A505017, H5	NIL	NIL	NIL	NIL	NIL	NIL	03A505017, H5	NIL	MONO
L002	NIL	NIL	NIL	TLUABTA151K	TLUABTA151K	TLUABTA151K	TLUABTA151K	TLUABTA151K	TLUABTA151K	NIL	TLUABTA151K	
L021	TLTACT390K	TLTACT390K	TLTACT390K	TLTACT390K	TLTACT390K	TLTACT390K	TLTACT390K	NIL	NIL	TLTACT390K	TLTACT390K	STEREO/MONO
L551	TLH6621P	TLH6621P	TLH6621P	TLH15652P	TLH15652P	TLH15652P	TLH15652P	TLH15652P	TLH15652P	TLH6621P	TLH15652P	H. DEF
L3001	TLTACT270J, H5	TLTACT270J, H5	TLTACT270J, H5	TLTACT270J, H5	TLTACT270J, H5	TLTACT270J, H5	TLTACT270J, H5	NIL	TLTACT270J, H5	NIL	TLTACT270J, H5	COLOR TRANSIENT
Q501	2SC4212HLB	2SC4212HLB	2SC4212HLB	2SC1573AH	2SC1573AH	2SC1573AH	2SC1573AH	2SC1573AH	2SC1573AH	2SC4212HLB	2SC1573AH	H. DRIVE
Q551	BU2508DF	BU2508DF	BU2508DF	BU2506DF	BU2506DF	BU2506DF	BU2506DF	BU2506DF	BU2506DF	BU2508DF	BU2506DF	H. OUT
Q801	FN521, H4	FN521, H4	FN521, H4	NIL	NIL	NIL	NIL	NIL	NIL	FN521, H4	NIL	POWER FOR 27V
Q802	FN521	FN521	FN521	NIL	NIL	NIL	NIL	NIL	NIL	FN521	NIL	POWER FOR 27V
Q803	NIL	NIL	NIL	FN521	FN521	FN521	FN521	FN521	FN521	NIL	FN521	POW FOR 13V/20V
Q3001	2SC1685QRSTA	2SC1685QRSTA	2SC1685QRSTA	2SC1685QRSTA	2SC1685QRSTA	2SC1685QRSTA	NIL	2SC1685QRSTA	NIL	2SC1685QRSTA	2SC1685QRSTA	1AV
Q3002	2SC1685QRSTA	2SC1685QRSTA	2SC1685QRSTA	2SC1685QRSTA	2SC1685QRSTA	2SC1685QRSTA	NIL	NIL	NIL	2SC1685QRSTA	2SC1685QRSTA	1AV, ST
Q3003	NIL	NIL	NIL	NIL	NIL	NIL	NIL	2SC1685QRS	NIL	NIL	NIL	1AV/MONO
R024	ERDS2TJ222T, H5	ERDS2TJ222T, H5	ERDS2TJ222T, H5	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ222T, H5	ERDS2TJ272T	VOL CONT
R025	ERDS2TJ272T, H4	ERDS2TJ272T, H4	ERDS2TJ272T, H4	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ272T, H4	ERDS2TJ473T	OSD POSITION
R026	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ562T	ERDS2TJ562T	ERDS2TJ562T	ERDS2TJ562T	ERDS2TJ562T	ERDS2TJ562T	ERDS2TJ472T	ERDS2TJ562T	OSD POSITION
R027	ERDS2TJ682T, H5	ERDS2TJ682T, H5	ERDS2TJ682T, H5	ERDS2TJ822T	ERDS2TJ822T	ERDS2TJ822T	ERDS2TJ822T	ERDS2TJ822T	ERDS2TJ822T	ERDS2TJ682T, H5	ERDS2TJ822T	VOL CONT
R028	ERDS2TJ683T, H5	ERDS2TJ683T, H5	ERDS2TJ683T, H5	ERDS2TJ823T	ERDS2TJ823T	ERDS2TJ823T	ERDS2TJ823T	ERDS2TJ823T	ERDS2TJ823T	ERDS2TJ683T, H5	ERDS2TJ823T	VOL CONT
R029	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ222T	ERDS2TJ222T	ERDS2TJ222T	ERDS2TJ222T	ERDS2TJ222T	ERDS2TJ222T	ERDS2TJ102T, H4	ERDS2TJ222T	OSD POSITION
R046	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ332T	ERDS2TJ272T	VOL CONT
R050	NIL	NIL	NIL	NIL	NIL	NIL	ERDS2TJ273T	ERDS2TJ393T, H4	ERDS2TJ273T	NIL	NIL	
R051	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ183T	ERDS2TJ153T	ERDS2TJ183T	ERDS2TJ103T	ERDS2TJ103T	
R054	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	NIL	ERDS2TJ102T	NIL	ERDS2TJ102T	ERDS2TJ102T	1AV
R061	NIL	NIL	NIL	ERDS2TJ271T	NIL	NIL	NIL	NIL	NIL	NIL	NIL	ON-TIMER LED
R062	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	NIL	ERDS2TJ103T	ERDS2TJ103T	NIL	ERDS2TJ103T	ERDS2TJ103T	1AV
R090	NIL	ERDS2TJ103T	ERDS2TJ103T	NIL	NIL	ERDS2TJ103T, H4	ERDS2TJ103T	ERDS2TJ153T	ERDS2TJ153T	NIL	ERDS2TJ103T	
R091	ERDS2TJ103T, H4	NIL	NIL	ERDS2TJ103T, H4	ERDS2TJ103T, H4	NIL	NIL	ERDS2TJ393T	ERDS2TJ393T	ERDS2TJ103T, H4	NIL	
R204	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	NIL	NIL	ERDS2TJ472T	ERDS2TJ472T	STEREO
R312	ERDS2TJ222T, H5	ERDS2TJ222T, H5	ERDS2TJ222T, H5	ERDS2TJ471T	ERDS2TJ471T	ERDS2TJ471T	ERDS2TJ471T	ERDS2TJ471T	ERDS2TJ471T	ERDS2TJ222T, H5	ERDS2TJ471T	DOT INTERFERENCE
R451	ERDS2TJ471T	ERDS2TJ471T	ERDS2TJ471T	ERDS2TJ681T	ERDS2TJ681T	ERDS2TJ681T	ERDS2TJ681T	ERDS2TJ681T	ERDS2TJ681T	ERDS2TJ471T	ERDS2TJ681T	V. DEF
R452	ERDS2TJ273T	ERDS2TJ273T	ERDS2TJ273T	ERDS2TJ333T	ERDS2TJ333T	ERDS2TJ333T	ERDS2TJ393T	ERDS2TJ333T	ERDS2TJ393T	ERDS2TJ273T	ERDS2TJ333T	V. SIZE
R454	ERDS1FJ3R3P	ERDS1FJ3R3P	ERDS1FJ3R3P	NIL	NIL	NIL	NIL	NIL	NIL	ERDS1FJ3R3P	NIL	V. DEF
R455	ERDS2TJ393T	ERDS2TJ393T	ERDS2TJ393T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ393T	ERDS2TJ223T	V. LIN
R456	ERDS2TJ393T	ERDS2TJ393T	ERDS2TJ393T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ393T	ERDS2TJ332T	V. LIN
R457	ERDS2TJ202T	ERDS2TJ202T	ERDS2TJ202T	ERDS2TJ152T	ERDS2TJ152T	ERDS2TJ152T	ERDS2TJ152T	ERDS2TJ152T	ERDS2TJ152T	ERDS2TJ202T	ERDS2TJ152T	V. LIN
R458	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ333T	ERDS2TJ333T	ERDS2TJ333T	ERDS2TJ333T	ERDS2TJ333T	ERDS2TJ333T	ERDS2TJ223T	ERDS2TJ333T	V. LIN
R461	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	NIL	NIL	NIL	NIL	NIL	NIL	ERDS2TJ102T	NIL	V. DEF
R465	ERDS1FJ1R5P	ERDS1FJ1R5P	ERDS1FJ1R5P	NIL	NIL	NIL	NIL	NIL	NIL	ERDS1FJ1R5P	NIL	V. DEF
R469	ERDS1FJ3R3P	ERDS1FJ3R3P	ERDS1FJ3R3P	ERDS1FJ1R8P	ERDS1FJ1R8P	ERDS1FJ1R8P	ERDS1FJ1R8P	ERDS1FJ1R8P	ERDS1FJ1R8P	ERDS1FJ3R3P	ERDS1FJ1R8P	V. DEF
R503	ERDS2TJ182T	ERDS2TJ182T	ERDS2TJ182T	ERDS2TJ392T	ERDS2TJ392T	ERDS2TJ392T	ERDS2TJ392T	ERDS2TJ392T	ERDS2TJ392T	ERDS2TJ182T	ERDS2TJ392T	H AFC
R504	ERDS2TJ561T	ERDS2TJ561T	ERDS2TJ561T	ERDS2TJ821T	ERDS2TJ821T	ERDS2TJ821T	ERDS2TJ821T	ERDS2TJ821T	ERDS2TJ821T	ERDS2TJ561T	ERDS2TJ821T	H. DRIVE
R505	ERDS2TJ682T	ERDS2TJ682T	ERDS2TJ682T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ472T	ERDS2TJ682T	ERDS2TJ472T	H. DRIVE
R506	ERDS2TJ100T	ERDS2TJ100T	ERDS2TJ100T	ERDS2TJ680T	ERDS2TJ680T	ERDS2TJ680T	ERDS2TJ680T	ERDS2TJ680T	ERDS2TJ680T	ERDS2TJ100T	ERDS2TJ680T	H. AFC
R509	ERG1ANJP392H	ERG1ANJP392H	ERG1ANJP392H	ERG2ANJP562H	ERG2ANJP562H	ERG2ANJP562H	ERG2ANJP562H	ERG2ANJP562H	ERG2ANJP562H	ERG1ANJP392H	ERG2ANJP562H	H. DRIVE
R510	ERG3ANJP821H	ERG3ANJP821H	ERG3ANJP821H	ERG2ANJP911H	ERG2ANJP911H	ERG2ANJP911H	ERG2ANJP911H	ERG2ANJP911H	ERG2ANJP911H	ERG3ANJP821H	ERG2ANJP911H	H. DRIVE
R511	ERG3ANJP102H	ERG3ANJP102H	ERG3ANJP102H	ERG2ANJP911H	ERG2ANJP911H	ERG2ANJP911H	ERG2ANJP911H	ERG2ANJP911H	ERG2ANJP911H	ERG3ANJP102H	ERG2ANJP911H	H. DRIVE
R532	ERDS2TKF5362	ERDS2TKF5362	ERDS2TKF5362	ERDS2TKF4422	ERDS2TKF4422	ERDS2TKF4422	ERDS2TKF4422	ERDS2TKF4422	ERDS2TKF4422	ERDS2TKF5362	ERDS2TKF4422	H. H. S.
R556	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ272T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ332T	ERDS2TJ272T	ERDS2TJ332T	ACL
R558	ERQ1CJ1R8, H3	ERQ1CJ1R8, H3	ERQ1CJ1R8, H3	ERQ1CKR82	ERQ1CKR82	ERQ1CKR82	ERQ12HKR47, H11	ERQ1CKR82	ERQ12HKR47, H11	ERQ1CJ1R8, H3	ERQ1CKR82	HEATER
R560	ERG2ANJP182H	ERG2ANJP182H	ERG2ANJP182H	ERDS1TJ681T	ERDS1TJ681T	ERDS1TJ681T	ERDS1TJ681T	ERDS1TJ681T	ERDS1TJ681T	ERG2ANJP182H	ERDS1TJ681T	BLK. LEVEL RET.
R561	ERG2ANJP102H	ERG2ANJP102H	ERG2ANJP102H	NIL	NIL	NIL	NIL	NIL	NIL	ERG2ANJP102H	NIL	H. DEF
R562	ERG3ANJP820H	ERG3ANJP820H	ERG3ANJP820H	ERG3ANJP680H	ERG3ANJP680H	ERG3ANJP680H	ERG3ANJP680H	ERG3ANJP680H	ERG3ANJP680H	ERG3ANJP820H	ERG3ANJP680H	5V LINE
R563	ERDS2TJ623T	ERDS2TJ623T	ERDS2TJ623T	ERDS2TJ124T	ERDS2TJ124T	ERDS2TJ124T	ERDS2TJ124T	ERDS2TJ124T	ERDS2TJ124T	ERDS2TJ623T	ERDS2TJ124T	ACL
R584	NIL	NIL	NIL	ERG2ANJP122H	ERG2ANJP122H	ERG2ANJP122H	ERG2ANJP122H	ERG2ANJP122H	ERG2ANJP122H	NIL	ERG2ANJP122H	RASTER RINGING
R801	ERF10ZK1R5	ERF10ZK1R5	ERF10ZK1R5	ERF7ZK2R7	ERF7ZK2R7	ERF7ZK2R7	ERF7ZK2R7	ERF7ZK2R7	ERF7ZK2R7	ERF10ZK1R5	ERF7ZK2R7	120V/127V
R806	ERX1SJ3R9P	ERX1SJ3R9P	ERX1SJ3R9P	NIL	NIL	NIL	NIL	NIL	NIL	ERX1SJ3R9P	NIL	POWER FOR 27V
R807	ERX1SJ3R9P	ERX1SJ3R9P	ERX1SJ3R9P	NIL	NIL	NIL	NIL	NIL	NIL	ERX1SJ3R9P	NIL	POWER FOR 27V
R817	NIL	NIL	NIL	ERX3ANJ4R7	ERX3ANJ4R7	ERX3ANJ4R7	ERX3ANJ4R7	ERX3ANJ4R7	ERX3ANJ4R7	NIL	ERX3ANJ4R7	130V FOR 13V/20V
R818	ERF20ZJ221	ERF20ZJ221	ERF20ZJ221	ERF20ZJ181	ERF20ZJ181	ERF20ZJ181	ERF20ZJ181	ERF20ZJ181	ERF20ZJ181	ERF20ZJ221	ERF20ZJ181	B+ AVR
R819	ERF20ZJ221	ERF20ZJ221	ERF20ZJ221	NIL	NIL	NIL	NIL	NIL	NIL	ERF20ZJ221	NIL	B+ AVR
R2201	ERDS2TJ472T, H20	ERDS2TJ472T, H20	ERDS2TJ472T, H20	ERDS2TJ472T, H20	ERDS2TJ472T, H20	ERDS2TJ472T, H20	ERDS2TJ472T, H20	NIL	NIL	ERDS2TJ472T, H20	ERDS2TJ472T, H20	MTS
R2202	ERDS2TJ153T	ERDS2TJ153T	ERDS2TJ153T	ERDS2TJ153T	ERDS2TJ153T	ERDS2TJ153T	ERDS2TJ153T	NIL	NIL	ERDS2TJ153T	ERDS2TJ153T	MTS
R2203	ERDS2TJ104T	ERDS2TJ104T	ERDS2TJ104T	ERDS2TJ104T	ERDS2TJ104T	ERDS2TJ104T	ERDS2TJ104T	NIL	NIL	ERDS2TJ104T	ERDS2TJ104T	MTS
R2204	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	NIL	NIL	ERDS2TJ473T	ERDS2TJ473T	MTS
R2205	ERDS2TJ154T	ERDS2TJ154T	ERDS2TJ154T	ERDS2TJ154T	ERDS2TJ154T	ERDS2TJ154T	ERDS2TJ154T	NIL	NIL	ERDS2TJ154T	ERDS2TJ154T	MTS
R2206	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	NIL	NIL	ERDS2TJ102T	ERDS2TJ102T	MTS
R2207	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	NIL	NIL	ERDS2TJ102T	ERDS2TJ102T	MTS
R2208	ERDS2TKF9102, H24	ERDS2TKF9102, H24	ERDS2TKF9102, H24	ERDS2TKF9102, H24	ERDS2TKF9102, H24	ERDS2TKF9102, H24	ERDS2TKF9102, H24	NIL	NIL	ERDS2TKF9102, H24	ERDS2TKF9102, H24	MTS
R2212	ERDS2TJ682T	ERDS2TJ682T	ERDS2TJ682T	ERDS2TJ682T	ERDS2TJ682T	ERDS2TJ682T	ERDS2TJ682T	NIL	NIL	ERDS2TJ682T	ERDS2TJ682T	MTS
R2219	ERDS2TJ564T, H21	ERDS2TJ564T, H21	ERDS2TJ564T, H21	ERDS2TJ564T, H21	ERDS2TJ564T, H21	ERDS2TJ564T, H21	ERDS2TJ564T, H21	NIL	NIL	ERDS2TJ564T, H21	ERDS2TJ564T, H21	
R2220	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	NIL	NIL	ERDS2TJ101T	ERDS2TJ101T	MTS
R2221	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	ERDS2TJ101T	NIL	NIL	ERDS2TJ101T	ERDS2TJ101T	MTS
R2301	ERQ2CJP100S	ERQ2CJP100S	ERQ2CJP100S	ERQ2CJP100S	ERQ2CJP100S	ERQ2CJP100S	ERQ2CJP100S	ERQ1CJP220S	ERQ1CJP220S	ERQ2CJP100S	ERQ2CJP100S	STEREO/MONO
R2304	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ183T	ERDS2TJ183T	ERDS2TJ183T	ERDS2TJ183T	ERDS2TJ183T	ERDS2TJ183T	ERDS2TJ223T	ERDS2TJ183T	SOUND QUALITY
R2307	ERDS2TJ681T, H4	ERDS2TJ681T, H4	ERDS2TJ681T, H4	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ331T	ERDS2TJ331T	ERDS2TJ681T, H4	ERDS2TJ102T	
R2309	ERDS2TJ103T	NIL	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	NIL	NIL	NIL	NIL	ERDS2TJ103T	NIL	V. A. O.
R2310	ERDS2TJ122T	NIL	ERDS2TJ122T	ERDS2TJ122T	ERDS2TJ122T	NIL	NIL	NIL	NIL	ERDS2TJ122T	NIL	V. A. O.
R2353	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ183T	ERDS2TJ183T	ERDS2TJ183T	ERDS2TJ183T	NIL	NIL	ERDS2TJ223T	ERDS2TJ183T	STEREO/MONO
R2354	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	NIL	NIL	ERDS2TJ102T	ERDS2TJ102T	STEREO/MONO
R2355	ERD25FJ4R7P	ERD25FJ4R7P	ERD25FJ4R7P	ERD25FJ4R7P	ERD25FJ4R7P	ERD25FJ4R7P	ERD25FJ4R7P	NIL	NIL	ERD25FJ4R7P	ERD25FJ4R7P	STEREO/MONO
R2356	ERDS2TJ681T, H4	ERDS2TJ681T, H4	ERDS2TJ681T, H4	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	ERDS2TJ102T	NIL	NIL	ERDS2TJ681T, H4	ERDS2TJ102T	STEREO/MONO
R2357	ERDS2TJ103T	NIL	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	NIL	NIL	NIL	NIL	ERDS2TJ103T	NIL	V. A. O.
R2358	ERDS2TJ122T	NIL	ERDS2TJ122T	ERDS2TJ122T	ERDS2TJ122T	NIL	NIL	NIL	NIL	ERDS2TJ122T	NIL	V. A. O.
R2451	ERDS2TJ225T	NIL	NIL	ERDS2TJ225T	ERDS2TJ225T	NIL	NIL	NIL	NIL	ERDS2TJ225T	NIL	IS-AGC
R2455	ERDS2TJ243T, H4	NIL	NIL	ERDS2TJ243T, H4	ERDS2TJ243T, H4	NIL	NIL	NIL	NIL	ERDS2TJ243T, H4	NIL	IS-AGC
R2456	ERDS2TJ103T, H4	NIL	NIL	ERDS2TJ103T, H4	ERDS2TJ103T, H4	NIL	NIL	NIL	NIL	ERDS2TJ103T, H4	NIL	IS-AGC
R3001	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	ERDS2TJ103T	NIL	NIL	NIL	ERDS2TJ103T	ERDS2TJ103T	1AV, ST
R3002	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	ERDS2TJ223T	NIL	ERDS2TJ223T	NIL	ERDS2TJ223T	ERDS2TJ223T	1AV
R3003	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	ERDS2TJ473T	NIL	NIL	NIL	ERDS2TJ473T	ERDS2TJ473T	1AV, ST
R3004	ERDS2TJ104T	ERDS2TJ104T	ERDS2TJ104T	ERDS2TJ104T	ERDS2TJ104T	ERDS2TJ104T	NIL	NIL	NIL	ERDS2TJ104T	ERDS2TJ104T	1AV, ST
R3006	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	NIL	NIL	ERDS2TJ102T, H4	ERDS2TJ102T, H4	1AV, ST
R3007	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	NIL	NIL	ERDS2TJ334T	ERDS2TJ334T	1AV, ST
R3008	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	ERDS2TJ334T	NIL	NIL	ERDS2TJ334T	ERDS2TJ334T	1AV, ST
R3009	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	ERDS2TJ102T, H4	NIL	NIL	ERDS2TJ102T, H4	ERDS2TJ102T, H4	1AV, ST
R3010	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	ERDS2TJ683T	NIL	NIL	1AV/MONO

IR469	IERDS1FJ3R3P	IERDS1FJ3R3P	IERDS1FJ3R3P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ1R8P	IERDS1FJ3R3P	IERDS1FJ1R8P	IV. DEF
IR503	IERDS2TJ182T	IERDS2TJ182T	IERDS2TJ182T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ392T	IERDS2TJ182T	IERDS2TJ392T	IH AFC
IR504	IERDS2TJ561T	IERDS2TJ561T	IERDS2TJ561T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ821T	IERDS2TJ561T	IERDS2TJ821T	IH. DRIVE
IR505	IERDS2TJ682T	IERDS2TJ682T	IERDS2TJ682T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ472T	IERDS2TJ682T	IERDS2TJ472T	IH. DRIVE
IR506	IERDS2TJ100T	IERDS2TJ100T	IERDS2TJ100T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ680T	IERDS2TJ100T	IERDS2TJ680T	IH. AFC
IR509	IERG1ANJP392H	IERG1ANJP392H	IERG1ANJP392H	IERG2ANJP562H	IERG2ANJP562H	IERG2ANJP562H	IERG2ANJP562H	IERG2ANJP562H	IERG2ANJP562H	IERG1ANJP392H	IERG2ANJP562H	IH. DRIVE
IR510	IERG3ANJP821H	IERG3ANJP821H	IERG3ANJP821H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG3ANJP821H	IERG2ANJP911H	IH. DRIVE
IR511	IERG3ANJP102H	IERG3ANJP102H	IERG3ANJP102H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG2ANJP911H	IERG3ANJP102H	IERG2ANJP911H	IH. DRIVE
IR532	IEROS2TKF5362	IEROS2TKF5362	IEROS2TKF5362	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF4422	IEROS2TKF5362	IEROS2TKF4422	IH. H. S.
IR556	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ272T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ332T	IERDS2TJ272T	IERDS2TJ332T	IACL
IR558	IERQ1CJ1R8, H3	IERQ1CJ1R8, H3	IERQ1CJ1R8, H3	IERQ1CKR82	IERQ1CKR82	IERQ1CKR82	IERQ12HKR47, H11	IERQ1CKR82	IERQ12HKR47, H11	IERQ1CJ1R8, H3	IERQ1CKR82	IHEATER
IR560	IERG2ANJP182H	IERG2ANJP182H	IERG2ANJP182H	IERDS1TJ681T	IERDS1TJ681T	IERDS1TJ681T	IERDS1TJ681T	IERDS1TJ681T	IERDS1TJ681T	IERG2ANJP182H	IERDS1TJ681T	IBLK. LEVEL RET.
IR561	IERG2ANJP102H	IERG2ANJP102H	IERG2ANJP102H	INIL	INIL	INIL	INIL	INIL	INIL	IERG2ANJP102H	INIL	IH. DEF
IR562	IERG3ANJP820H	IERG3ANJP820H	IERG3ANJP820H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP680H	IERG3ANJP820H	IERG3ANJP680H	I5V LINE
IR563	IERDS2TJ623T	IERDS2TJ623T	IERDS2TJ623T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ124T	IERDS2TJ623T	IERDS2TJ124T	IACL
IR584	INIL	INIL	INIL	IERG2ANJP122H	IERG2ANJP122H	IERG2ANJP122H	IERG2ANJP122H	IERG2ANJP122H	IERG2ANJP122H	INIL	IERG2ANJP122H	IRASTER RINGING
IR801	IERF10ZK1R5	IERF10ZK1R5	IERF10ZK1R5	IERF7ZK2R7	IERF7ZK2R7	IERF7ZK2R7	IERF7ZK2R7	IERF7ZK2R7	IERF7ZK2R7	IERF10ZK1R5	IERF7ZK2R7	I120V/127V
IR806	IERX1SJ3R9P	IERX1SJ3R9P	IERX1SJ3R9P	INIL	INIL	INIL	INIL	INIL	INIL	IERX1SJ3R9P	INIL	IPOWER FOR 27V
IR807	IERX1SJ3R9P	IERX1SJ3R9P	IERX1SJ3R9P	INIL	INIL	INIL	INIL	INIL	INIL	IERX1SJ3R9P	INIL	IPOWER FOR 27V
IR817	INIL	INIL	INIL	IERX3ANJ4R7	IERX3ANJ4R7	IERX3ANJ4R7	IERX3ANJ4R7	IERX3ANJ4R7	IERX3ANJ4R7	INIL	IERX3ANJ4R7	I130V FOR 13V/20V
IR818	IERF20ZJ221	IERF20ZJ221	IERF20ZJ221	IERF20ZJ181	IERF20ZJ181	IERF20ZJ181	IERF20ZJ181	IERF20ZJ181	IERF20ZJ181	IERF20ZJ221	IERF20ZJ181	IB+ AVR
IR819	IERF20ZJ221	IERF20ZJ221	IERF20ZJ221	INIL	INIL	INIL	INIL	INIL	INIL	IERF20ZJ221	INIL	IB+ AVR
IR2201	IERDS2TJ472T, H20	IERDS2TJ472T, H20	IERDS2TJ472T, H20	IERDS2TJ472T, H20	IERDS2TJ472T, H20	IERDS2TJ472T, H20	IERDS2TJ472T, H20	INIL	INIL	IERDS2TJ472T, H20	IERDS2TJ472T, H20	IMTS
IR2202	IERDS2TJ153T	IERDS2TJ153T	IERDS2TJ153T	IERDS2TJ153T	IERDS2TJ153T	IERDS2TJ153T	IERDS2TJ153T	INIL	INIL	IERDS2TJ153T	IERDS2TJ153T	IMTS
IR2203	IERDS2TJ104T	IERDS2TJ104T	IERDS2TJ104T	IERDS2TJ104T	IERDS2TJ104T	IERDS2TJ104T	IERDS2TJ104T	INIL	INIL	IERDS2TJ104T	IERDS2TJ104T	IMTS
IR2204	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	INIL	INIL	IERDS2TJ473T	IERDS2TJ473T	IMTS
IR2205	IERDS2TJ154T	IERDS2TJ154T	IERDS2TJ154T	IERDS2TJ154T	IERDS2TJ154T	IERDS2TJ154T	IERDS2TJ154T	INIL	INIL	IERDS2TJ154T	IERDS2TJ154T	IMTS
IR2206	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	INIL	INIL	IERDS2TJ102T	IERDS2TJ102T	IMTS
IR2207	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	INIL	INIL	IERDS2TJ102T	IERDS2TJ102T	IMTS
IR2208	IEROS2TKF9102, H24	IEROS2TKF9102, H24	IEROS2TKF9102, H24	IEROS2TKF9102, H24	IEROS2TKF9102, H24	IEROS2TKF9102, H24	IEROS2TKF9102, H24	INIL	INIL	IEROS2TKF9102, H24	IEROS2TKF9102, H24	IMTS
IR2212	IERDS2TJ682T	IERDS2TJ682T	IERDS2TJ682T	IERDS2TJ682T	IERDS2TJ682T	IERDS2TJ682T	IERDS2TJ682T	INIL	INIL	IERDS2TJ682T	IERDS2TJ682T	IMTS
IR2219	IERDS2TJ564T, H21	IERDS2TJ564T, H21	IERDS2TJ564T, H21	IERDS2TJ564T, H21	IERDS2TJ564T, H21	IERDS2TJ564T, H21	IERDS2TJ564T, H21	INIL	INIL	IERDS2TJ564T, H21	IERDS2TJ564T, H21	I
IR2220	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	INIL	INIL	IERDS2TJ101T	IERDS2TJ101T	IMTS
IR2221	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	IERDS2TJ101T	INIL	INIL	IERDS2TJ101T	IERDS2TJ101T	IMTS
IR2301	IERQ2CJP100S	IERQ2CJP100S	IERQ2CJP100S	IERQ2CJP100S	IERQ2CJP100S	IERQ2CJP100S	IERQ2CJP100S	IERQ1CJP220S	IERQ1CJP220S	IERQ2CJP100S	IERQ2CJP100S	ISTEREO/MONO
IR2304	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ183T	IERDS2TJ183T	IERDS2TJ183T	IERDS2TJ183T	IERDS2TJ183T	IERDS2TJ331T	IERDS2TJ223T	IERDS2TJ183T	ISOUND QUALITY
IR2307	IERDS2TJ681T, H4	IERDS2TJ681T, H4	IERDS2TJ681T, H4	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ331T	IERDS2TJ331T	IERDS2TJ681T, H4	IERDS2TJ102T	I
IR2309	IERDS2TJ103T	INIL	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	INIL	INIL	INIL	INIL	IERDS2TJ103T	INIL	IV. A. O.
IR2310	IERDS2TJ122T	INIL	IERDS2TJ122T	IERDS2TJ122T	IERDS2TJ122T	INIL	INIL	INIL	INIL	IERDS2TJ122T	INIL	IV. A. O.
IR2353	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ183T	IERDS2TJ183T	IERDS2TJ183T	IERDS2TJ183T	INIL	INIL	IERDS2TJ223T	IERDS2TJ183T	ISTEREO/MONO
IR2354	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	INIL	INIL	IERDS2TJ102T	IERDS2TJ102T	ISTEREO/MONO
IR2355	IERD25FJ4R7P	IERD25FJ4R7P	IERD25FJ4R7P	IERD25FJ4R7P	IERD25FJ4R7P	IERD25FJ4R7P	IERD25FJ4R7P	INIL	INIL	IERD25FJ4R7P	IERD25FJ4R7P	ISTEREO/MONO
IR2356	IERDS2TJ681T, H4	IERDS2TJ681T, H4	IERDS2TJ681T, H4	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	IERDS2TJ102T	INIL	INIL	IERDS2TJ681T, H4	IERDS2TJ102T	ISTEREO/MONO
IR2357	IERDS2TJ103T	INIL	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	INIL	INIL	INIL	INIL	IERDS2TJ103T	INIL	IV. A. O.
IR2358	IERDS2TJ122T	INIL	IERDS2TJ122T	IERDS2TJ122T	IERDS2TJ122T	INIL	INIL	INIL	INIL	IERDS2TJ122T	INIL	IV. A. O.
IR2451	IERDS2TJ225T	INIL	INIL	IERDS2TJ225T	IERDS2TJ225T	INIL	INIL	INIL	INIL	IERDS2TJ225T	INIL	IS-AGC
IR2455	IERDS2TJ243T, H4	INIL	INIL	IERDS2TJ243T, H4	IERDS2TJ243T, H4	INIL	INIL	INIL	INIL	IERDS2TJ243T, H4	INIL	IS-AGC
IR2456	IERDS2TJ103T, H4	INIL	INIL	IERDS2TJ103T, H4	IERDS2TJ103T, H4	INIL	INIL	INIL	INIL	IERDS2TJ103T, H4	INIL	IS-AGC
IR3001	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	IERDS2TJ103T	INIL	INIL	INIL	IERDS2TJ103T	IERDS2TJ103T	I1AV, ST
IR3002	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	IERDS2TJ223T	INIL	IERDS2TJ223T	INIL	IERDS2TJ223T	IERDS2TJ223T	I1AV
IR3003	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	IERDS2TJ473T	INIL	INIL	INIL	IERDS2TJ473T	IERDS2TJ473T	I1AV, ST
IR3004	IERDS2TJ104T	IERDS2TJ104T	IERDS2TJ104T	IERDS2TJ104T	IERDS2TJ104T	IERDS2TJ104T	INIL	INIL	INIL	IERDS2TJ104T	IERDS2TJ104T	I1AV, ST
IR3006	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	INIL	INIL	INIL	IERDS2TJ102T, H4	IERDS2TJ102T, H4	I1AV, ST
IR3007	IERDS2TJ334T	IERDS2TJ334T	IERDS2TJ334T	IERDS2TJ334T	IERDS2TJ334T	IERDS2TJ334T	INIL	INIL	INIL	IERDS2TJ334T	IERDS2TJ334T	I1AV, ST
IR3008	IERDS2TJ334T	IERDS2TJ334T	IERDS2TJ334T	IERDS2TJ334T	IERDS2TJ334T	IERDS2TJ334T	INIL	INIL	INIL	IERDS2TJ334T	IERDS2TJ334T	I1AV, ST
IR3009	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	IERDS2TJ102T, H4	INIL	INIL	IERDS2TJ102T, H4	IERDS2TJ102T, H4	I1AV, ST
IR3010	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IERDS2TJ683T	INIL	INIL	INIL	I1AV/MONO
IR3011	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IERDS2TJ102T	INIL	INIL	INIL	I1AV/MONO
IR3012	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IERDS2TJ224T	INIL	INIL	INIL	I1AV/MONO
IR3013	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IERDS2TJ203T	INIL	INIL	INIL	I1AV/MONO
IR3014	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IERDS2TJ332T	INIL	INIL	INIL	I1AV/MONO
IR3015	INIL	INIL	INIL	INIL	INIL	INIL	INIL	IERDS2TJ304T	INIL	INIL	INIL	I1AV/MONO
IR3016	IERDS2TJ750T	IERDS2TJ750T	IERDS2TJ750T	INIL	INIL	INIL	INIL	INIL	INIL	IERDS2TJ750T	INIL	I1AV
IR3017	IERDS2TJ221T	IERDS2TJ221T	IERDS2TJ221T	IERDS2TJ221T	IERDS2TJ221T	IERDS2TJ221T	INIL	IERDS2TJ221T	INIL	IERDS2TJ221T	IERDS2TJ221T	I1AV
IR3018	IERDS2TJ391T	IERDS2TJ391T	IERDS2TJ391T	IERDS2TJ391T	IERDS2TJ391T	IERDS2TJ391T	INIL	IERDS2TJ391T	INIL	IERDS2TJ391T	IERDS2TJ391T	I1AV
IR3019	IERDS2TJ101T, H5	IERDS2TJ101T, H5	IERDS2TJ101T, H5	IERDS2TJ101T, H5	IERDS2TJ101T, H5	IERDS2TJ101T, H5	INIL	IERDS2TJ101T, H5	INIL	IERDS2TJ101T, H5	IERDS2TJ101T, H5	ICOLOR TRANSIENT
IR3020	INIL	INIL	INIL	IERDS2TJ750T	IERDS2TJ750T	IERDS2TJ750T	INIL	IERDS2TJ750T	INIL	INIL	IERDS2TJ750T	I1AV
ISP	ITJS3A9650, H1	ITJS3A9650, H1	ITJS3A9650, H1	ITJS3A9650, H1	ITJS3A9650, H1	ITJS3A9650, H1	ITJS3A9650, H1	INIL	INIL	ITJS3A9650, H1	ITJS3A9650, H1	ISTEREO/MONO
ISP	INIL	INIL	INIL	INIL	INIL	INIL	INIL	ITJS118590	ITJS118590	INIL	INIL	ISTEREO/MONO
IS001	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQBH12T	IKEY LENGTH
IS002	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQBH12T	IKEY LENGTH
IS003	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQBH12T	IKEY LENGTH
IS004	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQBH12T	IKEY LENGTH
IS005	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQBH12T	IKEY LENGTH
IS006	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQBH12T	IKEY LENGTH
IS007	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	IEVQQKH06K	INIL	IEVQQKH06K	INIL	IEVQQBH12T	I1AV/KEY
IS2301	IESB621283	INIL	IESB621283	IESB621283	IESB621283	IESB621283	INIL	INIL	INIL	IESB621283	INIL	IV. A. O.
ITP801	INIL	INIL	INIL	ITJE98101	ITJE98101	ITJE98101	ITJE98101	ITJE98101	ITJE98101	INIL	ITJE98101	INO CASE PTC
IT501	ITLH15452	ITLH15452	ITLH15452	IETH19Y70AYM	IETH19Y70AYM	IETH19Y70AYM	IETH19Y70AYM	IETH19Y70AYM	IETH19Y70AYM	ITLH15452	IETH19Y70AYM	IH. DRIVE
JT551	ITLF15646F	ITLF15646F	ITLF15646F	ITLF15615F2	ITLF15615F2	ITLF15615F2	ITLF15615F2	ITLF15615F2	ITLF15615F2	ITLF15646F	ITLF15615F2	IH. DEF
IX201	IEFCS4R5MS4W	IEFCS4R5MS4W	IEFCS4R5MS4W	IEFCS4R5MS4W	IEFCS4R5MS4W	IEFCS4R5MS4W	IEFCS4R5MS4W	IEFCS4R5MS4	IEFCS4R5MS4	IEFCS4R5MS4W	IEFCS4R5MS4W	ISTEREO/MONO

DESCRIPTION OF ABBREVIATIONS GUIDE

RESISTOR			
TYPE		TOLERANCE	
C	Carbon	F	+/– 1%
F	Fuse	J	+/– 5%
M	Metal Oxide	K	+/– 10%
S	Solid	M	+/– 20%
W	Wire Wound	G	+/– 2%

RES, C 270–J–1/4

CAPACITOR			
TYPE		TOLERANCE	
C	Ceramic	C	+/– 0.25pF
E	Electrolytic	D	+/– 0.5pF
P	Polyester	F	+/– 1pF
S	Styrol	J	+/– 5%
T	Tantalum	K	+/– 10%
		L	+/– 15%
		M	+/– 20%
		P	+100% –0%
		Z	+80% –20%

CAP, P .068UF–K–50V